NURSERY SERVICES, INC.

# April 2011 Newsletter

**Our 2011 Catalog is at www.nurseryservices.com**

**UserName: nsi / Password: plants (lowercase)**

We are mailing our 2011-printed catalog on April 15.

# Drought Effects on Trees and Shrubs

### The Role of Water

Growth and health of plants are influenced by frequency of rainfall more than the total amount of rain in a given year. Basically, a wet spring and no rain during the summer affects plant growth and health. Plants need consistency in rainfall all year long in order to survive. Without water, there is no plant life. Water plays a significant role in the metabolic and physical processes of plant growth, including and forming new cells. These two processes allow the roots to uptake water and nutrients and transport throughout the entire plant.

### Water Deficit Affects Plant Growth

When water deficit occurs the soil tends to shrink away from the water absorbing roots, causing the roots to dry out and die over time. In the upper 15 inches of the soil are the feeder roots, which do the bulk of the water uptake into plants. Recovery from dying root hairs is a slow process even with the availability of water. Newly transplanted trees and shrubs need plenty of water as a drought can prevent the root to grow and expand.

### Symptoms

Effects of drought damage are immediately visible include wilting, scorch and some defoliation due to loss of shrinkage in the fibrous roots and increased processes signaling to inhibit shoot growth. Long term symptoms of drought include dieback of branches and death of the plant due to the inability to absorb water.

Other effects include disease and insect infections. Diseases are more likely to occur because of drought related stress on the plant. Shoestring root rot occurs because fungus forms on the roots; weakened or damaged by some type of stress or draught. A couple of canker type diseases like the Nectria canker and Cytospora canker can always be associated with drought stress. The invasion of wood boring insects such as bronze birch borer, black stem borer and other bark beetles increase in trees that are drought stressed.

### Conclusion

We need to be aware of the negative effects of droughts on plant growth and health. The problem may continue for years to come.