

# *Bartlett's Five Point Drought Recovery Program*

*Bruce Fraedrich, Ph. D.*  
*Thomas Smiley, Ph. D.*

The drought that has prevailed over much of the eastern United States will have a long-term effect on landscape plants. In many areas of the East, 2010 was a year of subnormal rainfall during the crucial growing season. Lack of water greatly reduces the plant's ability to manufacture food, which weakens the tree and limits future growth. Moisture stress also increases the tree's susceptibility to harmful insect and disease pests that would not ordinarily affect healthy plants.



*Drought symptoms on White Pine needles*



*Long-term drought eventually leads to branch dieback and tree decline*

**Bartlett's Five Point Drought Recovery Program** will help offset the effects of drought and consists of:

- \*Irrigation
- \*Mulching
- \*Soil and Nutrient Management
- \*Pruning
- \*Pest Management

**Irrigation:** Thoroughly irrigate landscape plants as soon as possible during the summer and fall. Water stress inhibits the synthesis of key plant growth regulators that control dormancy. If irrigation is not applied by fall, there is an increased chance of winter injury.

Irrigate so that soil is moist to a depth of 8-12 inches. Drip irrigation systems or soaker hoses work well because they irrigate only the root zone, reduce runoff and decrease water loss to evaporation. Tensiometers are useful for determining irrigation needs when monitored regularly.

**Mulching:** Mulching trees and shrubs with organic materials, such as wood or bark chips, provides many benefits. Mulch conserves soil moisture, insulates soil to reduce winter injury and improves the physical condition of soil. Apply mulches to a depth of 2-4 inches around plants, avoiding contact with the stem.

**Soils and Nutrient Management:** Plants weakened by moisture stress and nutrient deficiencies should be fertilized in fall or spring following the drought when soils are recharged by rainfall. Avoid fertilization during droughts because it provides little benefit when water is the limiting growth factor. Soil analysis is recommended to identify nutrient requirements.

Bartlett offers a variety of fertilizers that can treat any nutrient deficiency. Bartlett's *Soil Rx Prescription Fertilization Program* provides specific soil treatments based on soil nutrient analysis, plant species condition and client goals. Unnecessary nutrients are not applied.

Bartlett's *BOOST*<sup>®</sup> products were developed specifically for woody landscape plants in your area. *BOOST* releases vital nutrients gradually over the entire season. *BOOST* is mixed with water and injected into the root zone of plants. For those preferring an organic fertilizer, Bartlett now offers the OMRI listed Boost Natural<sup>®</sup> fertilizer, an all organic blend.

Additions of mycorrhizal fungi to soil will benefit drought stricken plants, especially mature trees. Mycorrhizae inoculants stimulate root development and improve the absorption

efficiency of those roots. Mycorrhizae is usually combined with *BOOST* or Prescription Fertilization.

Bartlett's *Roots Rx*<sup>®</sup> *Root Invigoration* program alleviates compaction around established trees. With this program, compacted soil is broken up, nutrients and organic matter are mixed into the soil utilizing a unique high pressure air tool that excavates soil without damaging the root system. This process increases water infiltration, and water-holding capacity of the soil, as well as adding nutrients.



*Apply mulch 2-4" deep from near the trunk to the dripline if possible*

**Pruning:** Trees should be *Cleaned* to remove dead, damaged and dying branches. Selectively *Thinning* plants with exceptionally dense branches reduces the demands for water and nutrients. Thinning must be done judiciously as excessive pruning can weaken the plant.

***MoniTor*<sup>®</sup> Integrated Pest Management (IPM):** Moisture stressed plants are more susceptible to insect borers, bark beetles, root rot and stem canker diseases. Cool-season mites are a particular concern on conifers. Bartlett's *MoniTor*<sup>®</sup> IPM Program ensures early detection and treatment of pest problems. A trained *MoniTor*<sup>®</sup> technician periodically inspects plants for insects and diseases that adversely affect plant health. Treatments are applied as necessary to keep pests below damaging levels and to maintain plant health.