

# RESEARCH LABORATORY TECHNICAL REPORT



## Bartlett's Root Invigoration For Landscape Architects & Landscape Contractors

Kelby Fite, PhD, Plant & Environmental Science

Bartlett's Root Invigoration is a treatment regime intended to promote a favorable soil environment for root growth and tree performance. The program has been successful on young trees, recent transplants, maturing trees, and even some declining trees. Increased root function leads to higher levels of water and nutrient uptake resulting in an overall improvement in tree health. In addition, Bartlett's Root Invigoration is an ideal way to prepare soil for shrub or bulb planting under existing trees without causing tree root damage.

### Bartlett's Root Invigoration

#### **Tree assessment, site evaluation and soil analysis**

The targeted tree(s) and associated landscape are examined to make sure they are suitable for the service. Not all trees will respond to this treatment and you should be especially mindful of this when considering declining trees. Soil analysis options provide information on the current nutrient, pH and organic matter levels as well as soil penetrability/density.

#### **Program recommendations**

Based on plant and soil conditions, the size of the area to be treated is determined. This may be limited to an area immediately adjacent to the trunk or may extend to the tree's dripline.

#### **Irrigation**

If soils are dry, irrigation prior to treatment is necessary. After treatment, irrigation is critical in order to achieve the desired response.

#### **Fertilizer selection and application**

Bartlett's unique Prescription Fertilization, matches fertilizer to the soil and tree needs, providing the greatest benefits with the least environmental impact. If fertilizer is required, it may be added to the soil during the soil conditioning phase of the operation.

#### **Soil conditioning**

Soil is cultivated to a depth of six to eight inches using an air tool designed to excavate the soil while minimizing damage to the roots. Following this operation, appropriate amendments such as organic matter, biochar, fertilizer and mycorrhizal fungi may be incorporated into the treatment zone.

#### **Mulching**

The completed treatment area is covered with mulch to conserve soil moisture and promote root growth. Mulch should be maintained at a depth of two to four inches, but never over the buttress root flare.

#### **Aftercare**

Monitoring tree response and health after treatment is completed is an important aspect of the program. Using the Bartlett IPM pest management program, trained technicians will monitor and treat insects, diseases and cultural problems before they damage the tree.

Every tree is a unique biological specimen, so the results of this treatment are also unique. Typically, a treated tree will respond with a denser and greener crown by the next growing season or with the next flush of growth.

## Bartlett's Root Invigoration for bed preparation

Since root invigoration loosens soil without significantly damaging tree roots, it is an ideal way to prepare beds beneath trees for planting shrubs, annuals, perennials or bulbs. The soil will be loosened using the air tool, organic matter and fertilizer will be incorporated as needed and the bed will be ready for planting! With proper watering, the new transplants will flourish and the tree will be healthier too.

## Bartlett's Root Invigoration for transplants

Root invigoration is the ideal way to ease the transition between root ball soil and the native site soil. Mixing and loosening the soil reduces soil texture incompatibilities and can eliminate the effects of glazing on the sides of the planting hole.



**Founded in 1926, The Bartlett Tree Research Laboratories is the research wing of Bartlett Tree Experts. Scientists here develop guidelines for all of the Company's services. The Lab also houses a state-of-the-art plant diagnostic clinic and provides vital technical support to Bartlett arborists and field staff for the benefit of our clients.**