Preserving Historical Trees

Presented

By

Bowling Green Tree Commission

To Preserve or Not Preserve

- First, not all old trees can or should be saved.
- There may be disease or insect problems.
- Poor Species in form, growth, location.
- Only the best trees warrant the time and expense to prolong life.
- Unfortunately even some trees that should be saved present problems that put them at risk such as limited root exposure (too much root area under sidewalks, driveways, or streets) or those which have been pruned severely over the years.

Healthy Tree or Not

Save or Remove

Three Parts to Preserving Historical Trees

SOIL COMPACTION

pH

NUTRITION

Soil Compaction

- Roots, like people need lots of oxygen to perform well.
- Roots need water.
- Compacting slows down the movement of both water and oxygen into the soil.
- It slows down gases CO2 and CO from leaving the root zone.
- During most winter on northwest Ohio the freezing and thawing takes care of this problem to a large degree.

Soil Compaction

Soil Compaction

- To address water movement in the soil we need to address drainage.
- If the soils does not drain, no water can eneter the soil.
- Water movement through soil pulls oxygen with it.
- Like human lungs, if water fills the lungs, the body dies from lack of oxygen. Plant roots die if the soil is full of water.

Soil Compaction

- Remember that grass around trees act as water inceptor. The grass gets first dibs on water oxygen, and nutrients.
- The faster we aim past the filter, the more the tree roots are exposed to available elements.
- So what do we do?

Correcting Soil Compaction

1. Aerate the soil.
   - Simple and inexpensive.
2. Use mulch with stone or wood products.
   - No more compacting or grass for competition.
3. When compacting has been long-term, the use of power vibrator or other equipment which fractures the soil profile can be beneficial.
   - Grass around trees is okay, use just have to have program that recognizes the plus and minus of grass.

Air Spade

Soil pH

- This is not a big factor unless dealing with pH sensitive species, especially oak.
- In older trees managing the pH is very difficult due to soil volume.
- Our soils are limestone based, this add to the problem.
- Our water pH is 7.5-7.8 and our City water is 8.5-8.8. This makes acidifying the soil very difficult.
- Sulfur chips can be given to oaks.

Nutrition

- As trees mature so do the roots system.
- At some point the roots system stops enlarging.
- As roots decrease growth, it no longer comes in contact with an abundance of soil nutrients.
- Remember a roost system has been mining the surrounding soil for 60 to 100 + years. The soil generates very little in the way of new nutrients each year.

Correcting Tree Nutrition

- Eliminate soil compaction first before fertilization can take effect.
- Just spread fertilizer over the ground and let the tree take it up with rain or lawn sprinkler.
- This works if there is no grass around the tree, as grass will intercept 80% of the fertilizer.
- How do we get the fertilizer to the roots?

Tree Nutrition

- Rate of fertilizer is one pound per inch of trunk diameter.
- 30 lbs for a 30 inch diameter tree.
- 12-12-12 (N-P-K)
- Schedule late April – early May each year.
- Drill holes 8-12 inch deep every 18 inches.
- Start at the drip line of the tree where the roots are most active.
- Fertilizer is $8-$10 per 50lb bag – Inexpensive.
- Water in fertilizer if no rain is projected.

The Best Method of Preserving Historical Trees

- Tree Selection is #1.
- Proper Planting (Location, Soil Type, Drainage).
- Proper Tree Pruning.
- Long Term Maintenance
- Periodic Inspections by Landscape Nursery or Certified Arborist.