Preparing Your Trees For Summer

A Workshop for Residents Sponsored by the
Trees, Parks and Recreation Board of the City of Oxford, Georgia

ARBOR DAY CELEBRATION
February 15, 2014 / 10:00 am to 12:00 noon
Oxford City Hall / 110 w Clark Street

Presented by Connie Head, Oxford City Arborist

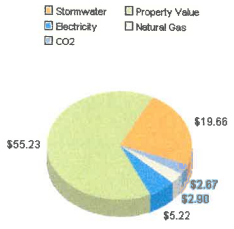
Introduction

- You have a huge impact on your trees' health.
- You put time, effort and money into caring for your trees.
- The purpose of this workshop is to help you maximize your effectiveness in caring for your trees.
- The objective of this workshop is healthier and longer-lived trees.
- Healthier trees mean more benefits to you and the community, and less cost over the trees' lives.
- Tree benefits are substantial and irreplaceable.

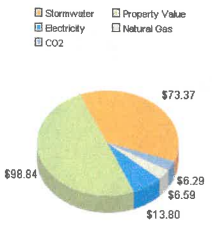
Tree Benefits

- Trees have environmental, economic, and social benefits.
- To calculate the value of your tree, first identify the species and then measure the diameter of the trunk.
- If you measure the trunk circumference with a measuring tape, divide the result by 3.14 to get the diameter.
- Go to www.treebenefits/calculator to find out the value of your trees.

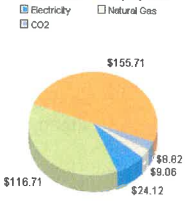
12 inch Willow Oak - $85 per year



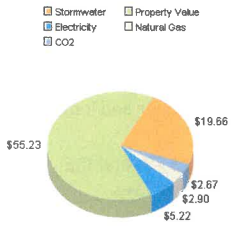
24 inch Willow Oak - $190 per year



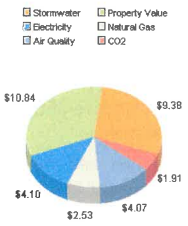
36 inch Willow Oak - $285 per year



12 inch Willow Oak - $85 per year



12 inch Dogwood- $33 per year



Keep Your Trees Healthy

- Plant good quality trees using proper methods; plant them where they will have adequate room to grow to maturity.
- Protect roots, trunk and crown every day, throughout the life of your trees, and during construction.
- Inspect regularly.
- Maintain routinely by mulching, watering and pruning.
- Hire qualified professionals to assess and prune.
- Remove trees only when necessary.

Preparing Trees for Summer

- Inspect
- Mulch
- Water
- Prune
- Manage Risk
- Hire an Arborist

Inspect

- Remove stakes and guy wires.
- Remove watering devices.
- Excavate the root collar.
- Check for girdling roots.
- Check for girdling wires, straps or twine.
- Check for insect or disease signs or symptoms.
- Check for structural defects, deadwood, and decline.

Remove Stakes and Guy Wires or Straps

Stake trees only when necessary.

Remove stakes, guy wires and straps if trees were staked.

All materials should be removed after the first year.

Girdling Straps

Watering aids such as Treegators, Ooze Tubes, Treecamels, or buckets with a small hole in the bottom can be used to water trees slowly without runoff.

Treegators hold 20 gallons of water and 2 can be zipped together as seen in this photo.

Remove after the first growing season.

Check for Girdling Roots

Girdling roots can result in tree decline.

Plant at proper level (not too deep) and do not over-mulch.

Cut girdling roots when they are small.

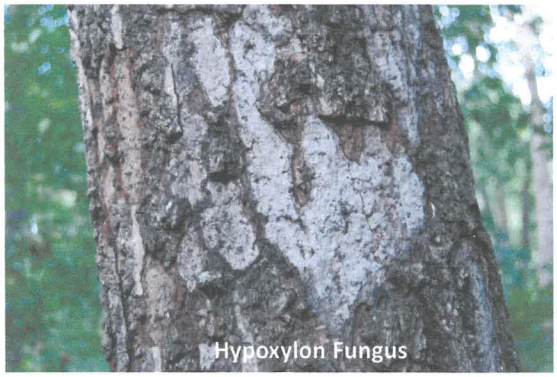
Check for Girdling Straps, Wire and Twine

Wire baskets, strapping, twine, and burlap should be removed from root balls before planting.

For existing trees, excavate the root collar and cutting as much of the material out from around the tree.

Dogwood Borer Signs and Symptoms

Bagworm Signs and Symptoms



Hypoxylon Fungus

Ganoderma applanatum

Inonotus dryadeus

Wetwood/Slime Flux

A foul-smelling and unsightly seepage of sap from the trunk of shade trees.

Bacterial disease causing discolored or wet wood; bacteria enters through root or trunk wounds.

Gas is produced by fermentation by bacteria which causes sap to ooze or "flux" from the wood.

Many different microorganisms grow in the flux producing a foul or alcoholic smell.

Insects are attracted to the slime flux.

Decay Columns with Open Cavities

1/3 good wood is required for strength; an open cavity decreases strength.

Mulch

- Mulch in the early spring and late fall.
- Use organic materials.
- Remove or break up old mulch.
- Replace with 2 to 3 inches of new mulch.
- Mulch out to the dripline.
- Keep mulch at least 6" away from trunk
- Expand mulch ring every year.
- Combine mulch rings into a mulch bed.

The Purpose of Mulch

- Recreates natural growing conditions.
- Retains moisture.
- Suppresses weeds.
- Maintains cooler soil temperatures during the hot months.
- Improves soil texture.
- Increases soil fertility.
- Reduces soil compaction over time.

Mulch Materials

- Pine straw
- Wood chips (preferably aged 3 months)
- Compost
- The tree's own leaves!

Mulching Techniques

"Mulch volcanoes" cause many problems for trees.

NO

From the International Society of Arboriculture, *Proper Mulching Techniques*, www.treesaregood.org; used with permission.

YES

Mulch wide—not deep.

From the International Society of Arboriculture, *Proper Mulching Techniques*, www.treesaregood.org; used with permission.

Good Mulching

Looks like good quality organic mulch (composted wood chips).

Mulch could be a little thicker.

Mulch bed has been edged possibly damaging roots near the surface.

Dripline is still farther out than edge of mulch.

Water

- Trees cannot function without water!

Watering

- Determine how you will water.
- Regular watering begins on the day of planting.
- Continue watering throughout the growing season, until leaf fall (late October).
- Water weekly in the absence of sufficient rain (1 inch per week).
- Water should penetrate to a depth of 8 inches.
- Do not keep the soil saturated.

Watering

- Use watering devices such as Tree Gators or Ooze Tubes the first growing season only.
- Remove watering devices at the end of the growing season, clean and store for new trees the next season.
- **Watch out for Black Widow spiders!**
- Water new trees during the first 3 growing seasons or until the tree is well established and vigorously growing.
- Regular inspections will allow you to assess if you are watering too much to not enough.

Prune

•The most important maintenance activity for your tree's health, structure, and safety!

Pruning Concepts

- Benefits of Pruning and Results of Not Pruning
- Pruning Objectives
- Pruning Techniques and Guidelines

Benefits of Pruning

- Maintenance of public health and safety.
- Improved form and structure.
- Reduced branch failure and breakage.
- Better clearance.
- Improved health.
- Enhanced appearance.
- Enhanced views.

Results of Not Pruning

- Greater chance of limb breakage.
- Co-dominant stems resulting in failures.
- Formation of large, low limbs.
- Larger pruning wounds.
- Reduced health.
- Reduced clearance.
- Poor appearance.
- Restriction of views.

Pruning Objectives

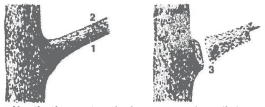
- Training pruning to guide structure.
- Crown cleaning to remove broken, dead, crossed, rubbing, diseased, or otherwise objectionable branches.
- Vehicle, pedestrian, building, utility line clearance.
- Corrective pruning, to improve structure and form after improper pruning or storm damage.
- Hazard reduction to remove splitting limbs, limbs with weak attachments, decaying limbs, dead limbs.

Training Young Trees

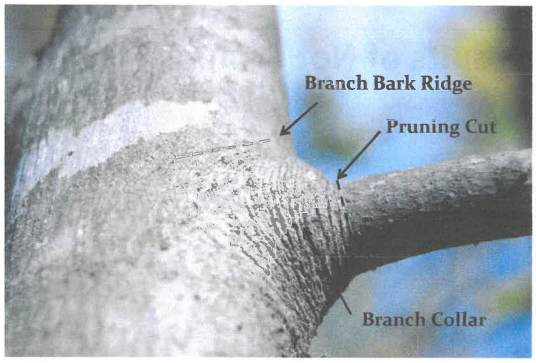
Creates a strong structure, develops a symmetrical form, reduces the formation of low limbs, reduces the size of pruning wounds, reduces the chance of and amount of stem decay.

Pruning Techniques

- Prune just outside the branch collar.
- Do not cut into the branch collar—it contains a protection zone to reduce the chance of trunk or parent limb decay.
- Remove large limbs using a 3-cut method to avoid stripping the bark beneath the pruning cut.



Use the three-cut method to remove a large limb.



Avoid Stub Cuts

Avoid Flush Cuts

Results in cracks and decay above the cut.

Pruning Wounds

Tree Pruning = Tree Wounding
Training pruning to remove branches when they are small results in smaller pruning wounds.
With proper pruning, woundwood will form evenly around the pruning wound.
DO NOT APPLY WOUND DRESSING OR PRUNING PAINT.

Pruning shears cut up to 1 inch diameter.

This folding pruning saw will cut limbs up to 6 inches in diameter.

A curved pruning saw will cut limbs 6 inches diameter and greater.

Loppers cut limbs up to 2.5 to 3 inches in diameter and extend your reach.

Pruning Guidelines

- Remove co-dominant stems when trees are young (better yet, don't buy trees with co-dominant stems).
- Do not remove more than 25% of a tree's foliage in any one growing season.
- The crown should be located in the upper 2/3 of the tree, with a clear stem comprising the lower 1/3.
- The percentage and distribution of foliage removed should be adjusted by the species, age, health, and site of the tree.

5 Steps to Pruning Young Trees

1. Remove broken, dead, diseased, dying, crossed, rubbing, and otherwise objectionable branches.
2. Select a central leader and remove competing branches.
3. Select the lowest permanent scaffold branch.
4. Select future scaffold limbs and cut back or remove competing branches.
5. Select temporary branches and subordinate to reduce competition with permanent branches.

Timing of Pruning

- Remove dead, diseased, dying, or damaged branches at any time.
- Prune during the winter months when trees are dormant or during the summer months after full leaf expansion.
- Prune trees that bloom on the current year's growth (crapemyrtle) in late winter prior to leaf emergence, or in summer after they bloom.
- Prune trees that bloom on 1 year growth (cherries) just after they bloom to preserve flower display.

Crapemyrtles

Crapemyrtles should be pruned as other trees are pruned and should not be topped.

Prune these trees in late winter prior to leaf emergence since they flower on the current year's growth.

NEVER TOP TREES!

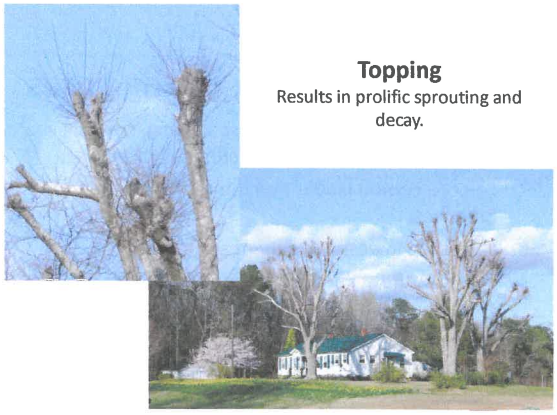
- Topping is the indiscriminate cutting of tree branches to stubs or lateral branches that are not large enough to assume the terminal role. Other names for topping include "heading," "tipping," "hat-racking," and "rounding over."
- Topping stresses and weakens trees, using their valuable energy reserves.
- Topping causes decay and reduces the tree's ability to compartmentalize decay.

From *Why Topping Hurts Trees*, the International Society of Arboriculture, www.treesaregood.org

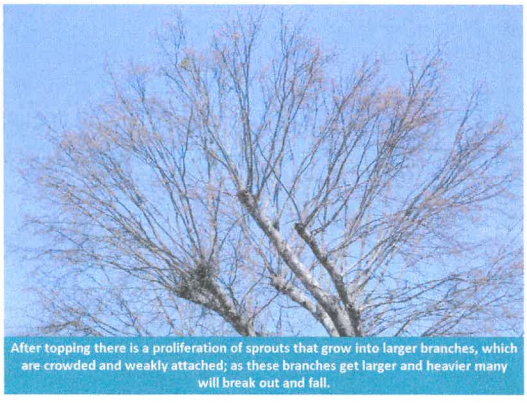
NEVER TOP TREES!

- Topping causes "sunburn" of limbs and parts of the trunk suddenly exposed to sunlight.
- Topping creates hazards, as the multiple shoots that are produced as the tree tries to regain balance and food producing capacity grow quickly and are weakly attached to the parent branch or stem.
- Topping is expensive because it results in a decrease in a tree's useful life and increased maintenance costs.
- **Topping is ugly!**

From *Why Topping Hurts Trees*, the International Society of Arboriculture, www.treesaregood.org



Topping
Results in prolific sprouting and decay.



After topping there is a proliferation of sprouts that grow into larger branches, which are crowded and weakly attached; as these branches get larger and heavier many will break out and fall.

Manage Risk

- Many factors affect the risk of tree failure.
- Regular maintenance reduces risk.
- Large trees should be regularly assessed for risk by a professional and experienced arborist.
- Mitigate tree risk as it's identified and according to the arborist's recommendation.

Tree Risk Management

- Tree Risk Management includes...
  - Tree Risk Assessment
  - Tree Risk Mitigation
    - Pruning
    - Supplemental Support
    - Lightning Protection
    - Removal
- Tree risk assessment should be conducted periodically and after each storm event.

Risk Factors

- Partial tree (limb) failure results from...
  - Improper pruning
  - Structural defects
  - Weather related events (splitting, breakage from wind, ice, and snow)
  - Mechanical damage (wounding, breakage)
  - Insect and disease damage
  - Poor health

Risk Factors

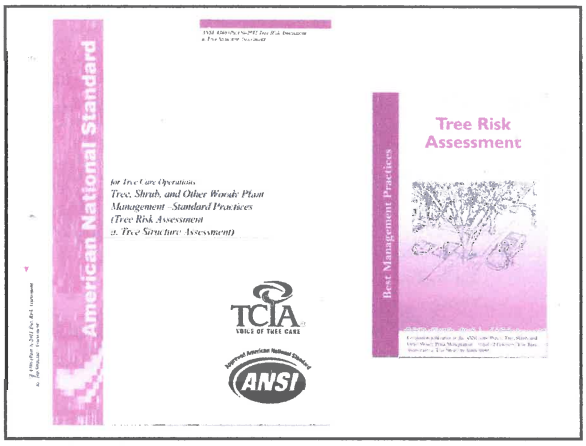
- Whole Tree Failure
  - Structural defects
  - Trunk wounds, cavities, decay
  - Weather related events (wind, tornadoes, lightning)
  - Saturated soils and flooding
  - Root damage
    - Droughts
    - Soil contamination
    - Soil compaction
    - Soil trenching
    - Soil backfill

Regular Maintenance

- Inspection
- Mulching
- Watering
- Pruning
- Pest Management
- Protection

Tree Risk Assessment

- *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas* (Nelda P. Matheny and James R. Clark)
  - *Field Data Collection Form*
- *ANSI A300 Part 9, Standard for Tree Risk Assessment, a. Tree Structure Assessment*
  - *Best Management Practices for Tree Risk Assessment*



ANSI A300 Part 9: Tree Risk Assessment

- Purpose is to provide guidelines for the practice of tree risk assessment and standards for writing specifications.
- To assess structural integrity and other factors that affect the level of risk to people or property and to provide information for mitigating risk.
- Specifications and mitigation should be provided by an arborist competent in tree risk assessment.

Risk Assessment Levels

- Level I: Limited Visual Assessment
- Level II: Basic Assessment
- Level III: Advanced Assessment

Level I: Limited Visual Assessment

- Look for obvious defects:
  - Dead trees
  - Large cavity openings
  - Large dead or broken branches
  - Fungal fruiting structures
  - Large cracks
  - Severe leans
  - Lethal pests
  - Symptoms of root decay

Level II: Basic Assessment

- 360-degree, ground-based visual inspection of the tree crown, trunk, trunk flare, above-ground roots, and site conditions around the tree in relation to targets.
- Tools that may be used include:
  - Binoculars
  - Magnifying glass
  - Mallet
  - Probe
  - Trowel or shovel

Level II: Basic Assessment

- Determine the targets and target zone of the tree or branches of concern.
- Review site history, conditions and species failure profile.
- Assess potential load on the tree and its parts.
- Assess general tree health.

Level II: Basic Assessment

- Record observations of site conditions, defects and outward signs of possible internal defects and response growth.
- Analyze data to determine the likelihood and consequences of failure in order to evaluate the degree of risk.
- Develop mitigation options and estimate residual risk for each option.
- Develop and submit the report/documentation, including, when appropriate, advice on re-inspection intervals.
- May recommend an advanced assessment.

Level III: Advanced Techniques

- Aerial inspection and evaluation of structural defects in branches
- Detailed target analysis
- Detailed site evaluation
- Decay testing
- Health evaluation
- Root inspection and evaluation
- Storm/wind load analysis
- Measuring and assessment the change in trunk lean
- Load testing

Tree Risk Mitigation

- Short-term Tree Risk Mitigation
  - Immediate actions that can be taken to improve tree structure, health, and lower risk of whole or partial tree failure.
- Long-term Tree Risk Mitigation
  - Actions that create better-planted and -placed, better-maintained, healthier and more structurally sound trees.

Short-Term Tree Risk Mitigation

- Pruning
- Supplemental support (cabling and bracing)
- Lightning protection systems
- Removal
- Removal of target may also be used to reduce risk.

Long-Term Tree Risk Mitigation

- Adopt and implement tree care standards and BMPs:
  - Planting
    - Species, tree and site selection
    - Minimum growing space, above and below ground
  - Mulching
  - Watering
  - Pruning
  - Pest Management
  - Protection

Hire an Arborist

- The International Society of Arboriculture conducts a voluntary arborist certification program.
- Certified Arborists are required to pass a comprehensive exam and attend 30 hours of continuing education every 2 years.

How to Hire an Arborist

- Find an arborist in your area at www.isa-arbor.com.
- Verify a certification on this website.
- Request quotes from at least 3 contractors and only from those companies employing an ISA Certified Arborist who will oversee the work on your tree.
- Make sure you ask each contractor to provide a quote on the same work for accurate comparison of prices.
- Request at least 3 references from potential contractors for similar work.
- Keep up to date on recommended tree care practices.

For more information, visit:

- www.cityofoxfordga.com (City of Oxford)
- www.gatrees.org (Georgia Forestry Commission)
- www.gufc.org (Georgia Urban Forest Council, Inc.)
- www.treesaregood.com and www.isa-arbor.com (International Society of Arboriculture)
- www.arborday.org (National Arbor Day Foundation)
- www.treebenefits/calculator (National Tree Benefit Calculator)

Thank You!