

Celebrating Arbor Day

The Simple Act of Planting a Tree



Other Holidays repose upon the past
Arbor Day proposes for the future.

- J. Sterling Morton

**A Homeowner's Guide to
Planting and Nurturing Trees in Their Community**

What Is Arbor Day?

Imagine moving from the lush, green forests of the Northeastern United States to the Nebraska prairie in 1854. Imagine convincing enough people to plant one million trees and getting a spring day set aside to plant trees. Well that is exactly what J. Sterling Morton did in 1872. After moving to the Nebraska Territory in 1854, Morton, a journalist and editor of Nebraska's first newspaper began to share his love and enthusiasm for trees with a receptive audience. His fellow pioneers missed their trees and needed them for windbreaks, fuel, building materials, and shade from the hot prairie sun.

Morton wrote and spoke about environmental stewardship and the interrelatedness of life. He encouraged everyone to set aside a specific day to plant trees. In 1872, the State Board of Agriculture accepted a resolution by J. Sterling Morton "to set aside one day to plant trees, both forest and fruit." The Board declared April 10, Arbor Day and offered prizes to the counties and individuals that properly planted the largest number of trees on that day. More than one million trees were planted in Nebraska on the first Arbor Day.

Shortly after the 1872 observance, other states passed legislation to observe Arbor Day each year. By 1920, more than 45 states and territorial possessions were celebrating Arbor Day. In Pennsylvania, Arbor Day is celebrated on the last Friday of April.



While most holidays celebrate something that has already happened and is worth remembering, Arbor Day reflects a hope for the future. The trees planted on Arbor Day show a concern for future generations. The simple act of planting a tree represents a belief that the tree will grow and, some day, provide wood products, wildlife habitat, erosion control, shelter from wind and sun, beauty, and inspiration for ourselves and our children.

Today, thousands of schools and communities across the nation hold Arbor Day celebrations. Make a point of celebrating Arbor Day this year with your family. Plant a tree somewhere on your property and care for it. It will turn into a day your family will always remember.

For more information about Arbor Day, visit the National Arbor Day Foundation website at <http://arborday.org>.



The History of Community Trees

by Dr. Henry Gerhold, Penn State University, School of Forest Resources

Records of intentional tree planting in cities extend back to 1400 BC in Egypt. In the 1500's, the first of several distinct landscape elements appeared in Italy, the garden allée which is a tree-lined pathway. A new type of allée, the wall promenade, was constructed in France and elsewhere late in the 16th century as military tactics changed. Double rows of trees were planted on ramparts that replaced masonry walls; thus public open space was created. In the 1700's street trees became commonplace in many European cities. Trees were thought to promote public health by purifying the air.

In America, settlers had to clear trees from the wilderness, but also valued their use for buildings, implements, and fuel. Their European experience was tempered with attitudes about freedom, independence from European domination, and beliefs in private property and free enterprise. So our public spaces developed differently, though with some European influences.

In Boston the first public planting of trees in 1646 was for the relief of travelers, and included the famous "Liberty Elm". Trees played a significant role in Pennsylvania's history. Even the state's name means Penn's Woods. William Penn in 1681 stated his Greene Country Towne "will never be burnt and always be wholesome", which predated European references to healthfulness. In Philadelphia tree planting was ordained in 1700, and by 1750 the public became involved in planting city trees. In 1896 the city hired an arborist with the title of Chief Forester, perhaps the first urban forester, long before this term was conceived. Other American cities such as Washington, DC, Savannah, and Sacramento, also were planting trees in the 1700's.

In 1857, Frederick Law Olmsted and Calvert Vaux employed the naturalistic, picturesque European style to design Central Park in New York City. They invented the name "landscape architect" to convey their intent to design, just as an architect designs buildings. They believed the parks would promote social progress and greater tolerance among diverse people.

Especially noteworthy is the empowerment of municipal tree commissions by states, starting with New Jersey in 1893. Tree commissions are reminiscent of Andrew Jackson Downing's Ornamental Tree Societies. What's significant is that tree commissions transfer advisory or operational responsibilities to citizen volunteers, which apparently is uniquely American.

Modern municipal tree management practices got underway in the 20th century. Early recommendations for inventorying and managing urban trees were made already in 1895, and inventory data became much more useful with the advent of computers in the last two decades. Yet accomplishments in the early 1900's were remarkable without sophisticated records. For example New York City in 1910 had a forester and about 600 workers to care for 150,000 street trees. Unfortunately, tree care declined in most cities during the middle of the last century.



Benefits of Trees

Trees and Green Spaces May Lead to Longer Lifespans

The BBC News Services reports that retirees who live near green open spaces “live much longer than those stuck in the ‘concrete jungle’”. The report cites research done at a Japanese medical college. The study included interviews with over 3,000 elderly people. After a five year period in which 897 of the interviewees died, data from the interviews were correlated with longevity. The researchers, reporting their results in the *Journal of Epidemiology and Community Health*, said, “The factor of walkable green streets and spaces near the residence significantly and positively influenced the five year survival of senior citizens.” Their recommendations were for urban developers to “pay more attention to increasing greenery-filled public areas that are easy to walk in and are within easy walking distance to every household.”



Adding More Green Can Make Life More Manageable

Life can be demanding and stressful – juggling schedules, work, meeting daily needs and commuting. Crowding, noise, and danger can all contribute to chronic mental fatigue – leaving people less able to cope with major life issues. Several scientific studies by the University of Illinois at Urbana-Champaign have demonstrated that green views and access to green spaces may, in fact, help restore attention and relieve the everyday pressures. Social researchers are just beginning to discover that urban greenery provide another remarkable level of social services to residents.

- **Seeing green prevents people from being mean** – recent scientific studies have demonstrated that contact with nature may actually help reduce the incidence of aggression and violence in inner-city neighborhoods.
- **Greening neighborhoods can reduce crime** – a series of studies showed that residents living in “greener” surroundings actually report lower levels of fear, fewer incivilities, and less violent behavior. The study also found that the greener a building’s surroundings, the fewer reported crimes.
- **Kids who spend more time outside end up paying more attention inside** – a scientific study suggests the symptoms of Attention Deficit Hyperactivity Disorder (ADHD) in children are relieved after contact with nature. ADHD kids were better able to concentrate, complete tasks, and follow directions after playing in natural settings.
- **Planting trees grows stronger neighborhoods** – a recent study found that the more trees and common green spaces a community had, the more they were used by residents for social interaction. In other words, relationships between neighbors are made stronger simply through the presence of vegetation.
- **Views of nature help hospital recovery** - Studies have shown that hospital patients with a window view of greenery recover faster and suffer fewer complications than those without such views.
- **Participating in greening activities builds community pride** - Several studies have shown that participating in tree planting programs enhances individuals’ perception of their community. Conversely, a loss of trees within a community can have an adverse psychological effect on residents. Planting programs produce a visible sign of change that can kindle interest in other community improvement projects.

For more information about these and other scientific studies, visit www.herl.uiuc.edu.

Economic Benefits of Trees in Communities

Heating and Cooling Costs – A 25 foot tree reduces annual heating and cooling costs of a typical residence by 8 to 12 percent. While asphalt paving, and concrete building and walkways reflect heat causing “heat islands”, a mature tree canopy reduces air temperatures by about 5-10 degrees F, influencing the internal temperatures and air conditioning needs of nearby buildings.

Air Quality and Pollutant Filtering – Two healthy trees can produce enough oxygen needed by a person each year (about 400 lbs). Trees also absorb 120-240 lbs of air pollutants such as nitrogen dioxide, sulfur dioxide, and carbon dioxide produced by automobiles, power plants, and factories. Also, as trees cool the surrounding environment they reduce smog levels and ozone pollutions by up to 6%. Recent USDA Forest Service research estimates that Philadelphia’s urban forest air pollution removal is valued at \$4 Million.

Improved Water Quality and Reduced Community Flooding - The canopy of a tree absorbs and intercepts rain, reducing the amount of water that will fall on pavement and then must be removed by a stormwater drainage systems. Reducing the amount of stormwater with tree canopies can mean reductions in stormwater management costs (smaller and fewer pipes). As stormwater falls on paved surfaces such as roadways and parking lots, they wash oils, metals, salts and other chemicals into nearby streams and rivers. By intercepting stormwater with tree canopies, these non-point source pollutants are reduced in our streams. Flash flooding can also be reduced if a community has good tree canopy cover that slows down rainfall that would otherwise runoff paved surfaces to nearby streams and rivers.

Retail and Commercial Environments – Businesses work hard to offer products and services that meet their customers’ needs. Trees help create a positive environment that attracts and welcomes consumers. In a survey of communities, 74% of the public preferred to patronize commercial establishments whose structures and parking lots had trees and other landscaping. In a survey of real estate appraisers, 86% agreed that landscaping added to the dollar value of commercial property, and 92% also agreed that landscaping enhances the sales appeal of commercial real estate.

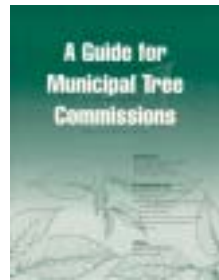
Residential Property Values – House prices are also influenced by the presence of trees. Developers can maximize profits by retaining healthy existing trees, or by replanting trees after construction is completed. Several studies have analyzed the effects of trees on actual sales prices of residential properties. Homes with equivalent features, square footage, and location were evaluated. In one area a 6% increase in value was found to be associated with the presence of trees; increases of 4-15% have been reported in other studies.

For more information about the benefits of community trees visit <http://www.cfr.washington.edu/research.envmind/textlist.html>.

Community Forestry in Pennsylvania

Starting a Community Tree Program

A survey conducted by Penn State University in 1991 estimated that only 28% of Pennsylvania boroughs and cities had a community tree program. Although this number has grown in the last few years, it illustrates that many Pennsylvania communities are overlooking a tremendous opportunity to develop and sustain a valuable community asset – their trees.



The goal of any tree program should be to assure that a community's trees will receive proper care and replacement of trees that are removed. The presence of public trees is no guarantee that they will endure. For this reason, concerned citizens should work towards the establishment of a municipal shade tree commission or committee. Pennsylvania state enabling legislation provides for the formation of tree commissions and spells out the legal authority and responsibilities a municipality has related to trees within the public right-of-way and other public spaces such as parks.

By forming and empowering a tree commission or committee of dedicated volunteers with various backgrounds and talents, a community can develop a comprehensive long-term program that will perform the following functions:



- advise community leaders on tree related issues
- conduct a street tree inventory and develop a management plan
- reduce community liability by identifying and removing hazardous trees
- design tree plantings with species that minimize conflicts with utilities, sidewalks, signs and other infrastructure.
- settle community disputes, review tree removal requests and commercial planting plans
- solicit funds from various sources including grants and donations for tree plantings and maintenance
- develop street ordinances designed to protect trees from improper care and unwarranted removals
- inform, educate, and involve the public in community tree care
- foster cooperation between municipal departments, homeowners, utility companies, contractors, and developers

Who benefits from a community tree program? Every resident and visitor alike, but especially the children and grandchildren who will inherit a beautiful and healthy community that continues to attract residents and businesses. The key is making citizens and officials aware of the substantial benefits and cost reductions that a community tree program can accomplish by providing proper stewardship to an important community asset – its trees.

For more information about forming a tree commission, contact Penn State Cooperative Extension in Luzerne County at (570) 825-1701.

The Pennsylvania Urban and Community Forestry Program

Since the inception of the Pennsylvania Urban & Community Forestry Program in 1991 the program has provided over 800 grants to communities totaling in excess of \$1.7 million dollars. It has also provided technical assistance to over 2000 communities and organizations and delivered approximately 1000 educational programs. As a result of this work, over 200 new community forestry programs have been established throughout the Commonwealth over the past decade.



The success of the Pennsylvania Urban & Community Forestry Program is due, in part, to close partnerships between the Pennsylvania DCNR Bureau of Forestry, the Pennsylvania State School of Forest Resources Extension, the USDA Forest Service, and the Pennsylvania Urban and Community Forestry Council. The Pennsylvania Urban and Community Forestry Council is a forum that brings together the many and varied groups interested and involved in urban forestry in Pennsylvania. The Council's stated mission is to, "assist communities in developing comprehensive and sustainable urban forestry programs for the purpose of enhancing quality of life."

The program has been able to provide a series of community forestry grants titled to assist communities with the planting and maintenance of trees, and the development of long term comprehensive community forestry programs. A variety of faculty at Penn State University have developed a number of high quality publications on urban forestry issues that are used around the nation. The Pennsylvania Urban and Community Forestry Council's magazine *Sylvan Communities* and newsletter *Urban Forestry News* provide municipal shade tree commissions and volunteer organizations with technical information as well as stories about local tree programs and happenings.

For more information about the Pennsylvania Urban & Community Forestry Program, free publication downloads, and the community grants program visit <http://www.dcnr.state.pa.us/forestry/pucfc/>.



Community Forestry in Pennsylvania

Do You Live in a Tree City?

Making sure that our towns and cities have tree-lined streets and a community forestry program is a job for each of us - each mayor, each city council member, each civic leader, and each citizen. Without a community forestry program, a plan of action for ensuring that trees are cared for and replanted in our communities, future generations will inherit treeless, unhealthy and unlivable communities.

A National Arbor Day Foundation program called Tree City USA, recognizes US towns and cities that develop comprehensive community forestry programs. Tree City USA began as a 1976 Bicentennial project co-sponsored by the National Association of State Foresters and the USDA-Forest Service. The National League of Cities and the U.S. Conference of Mayors are now co-sponsors as well.



To become a Tree City USA, a community must meet four standards: have a tree board or department; have a community tree ordinance; develop a comprehensive community forestry program with spending of \$2 per capita; and observe and proclaim Arbor Day. Following review and verification by the state forester's office, each Tree City USA community is awarded with a walnut plaque, a Tree City USA flag, and community road signs at their Arbor Day celebration the coming year.



Trees and Sidewalks: Can They Be Friends?

Often street trees will lift sidewalks because their roots grow best where oxygen and moisture requirements are met. That gravel sub-base we pour our concrete sidewalks over tends to be a perfect place for roots to grow. Especially since we compacted the subsoil to prevent settling.

When tree roots lift sidewalks, the standard cures are either to remove the tree or to pull up the cracked sidewalk, hack away at the offending root, and put down new concrete. The later method often leads to eventual tree removal anyway: severing even a few major roots is a serious setback for a tree, and more drastic root destruction frequently results in tree death.

Consider this before you remove a tree that is lifting your sidewalk. The cost of removing the tree and grinding the stump could be in excess of \$700, and the sidewalk still needs to be fixed. If the tree is healthy, why not just repair the sidewalk, giving the tree more room to grow?

Consider Alternative Sidewalk Designs

Sidewalk Configuration – sidewalks and curbs can be curved (bowed) around trees to provide more space for the expanding buttress roots as the base of the trunk. Reduce the width of the sidewalk to three feet near trees to provide more room for the tree. It will still meet ADA standards and produces some interesting-looking sidewalks.

Expansion joints – use more expansion joints between sidewalk segments near trees. If roots lift the slab, the joints will limit the number of segments affected. Expansion joints will also facilitate easier removal of sidewalk segments.

Pavers – the use of brick or interlocking pavers adjacent to trees can minimize tree/pavement interference. When individual pavers are lifted they can be removed to give the tree more room or reset as needed. Elevated walks which rest one-half inch above the ground on piers can also be used near high value plantings.

Ramps – a quick and cheap fix to a single slab of raised sidewalk is creating a sloped ramp of concrete or asphalt to reduce tripping. This temporary fix quickly corrects a safety issue while preserving the tree.

Grinding – another simple, low-cost alternative for repairing a lifted slab is the use of a mechanical grinder to wear down the raised edge of the slab.

Prevention – when planting new trees adjacent to sidewalks, consider using root barriers that prevent roots from entering the gravel sub-base under walks. Cornell University's Urban Horticulture Institute has engineered a soil that promotes deeper rooting, while still providing a compactible base for building sidewalks over. Some cities are installing CU-Structural Soils when repaving downtown streets.


Several publications from the National Arbor Day Foundation and USDA Forest Service explain how to resolve tree-sidewalk conflicts without removing the tree that is helping to clean your air, cool your house, increase the value of your property and add beauty to your community. For more information contact Penn State Cooperative Extension at 825-1701.



Selecting Stress Tolerant Trees

There is no one perfect tree to plant everywhere! By seeking the one ‘perfect tree’ over and over again we set ourselves up for a disaster in the future. Over-planting one type of tree results in a monoculture that often encourages the buildup of insect populations or diseases that can destroy an entire planting. For example, the American elm, enormously successful urban tree, quickly died with the introduction of Dutch Elm Disease, leaving many community streets treeless following expensive removal programs.

The best success will come from matching the planting site limitations with a tree that will tolerate those conditions. These lists of recommended trees and trees to avoid will only accomplish half the task of choosing an appropriate tree. Evaluating your planting site and its growing conditions should be completed before a species is selected.

Tolerate Poorly Drained Soils	Tolerate De-Icing Salts	Tolerate Droughts
 <ul style="list-style-type: none"> Red Maple Black Alder River Birch White and Green Ash Sweetgum Tupelo/Blackgum London Planetree/Sycamore Swamp White Oak Pin Oak Blacklocust Baldcypress White Spruce 	<ul style="list-style-type: none"> Hedge Maple Sycamore Maple Black Alder Hawthorne Green Ash Ginkgo Honeylocust Goldenraintree London Planetree Sargent Cherry Callery Pear English Oak Northern Red Oak Blacklocust Scholar Tree Baldcypress 	<ul style="list-style-type: none"> Hackberry London Planetree Honeylocust Hawthorn Green Ash Ginkgo Northern Red Oak Bur Oak Crabapple Tree Lilac Zelkova Kentucky Coffeetree Goldenraintree Hedge Maple Scholar Tree

Adapted from Cornell University's 'Urban Trees: Site Assessment Selection for Stress Tolerant Planting'

Trees to Avoid

There are some trees that should not be planted around homes or other structures because they are weak wooded or have poor branch structure that leads to branch failures, and property damage. Other trees have become invasive and are considered a weed pest that grows aggressively, spreads quickly, and displaces other native plants. Invasive plants are often difficult and expensive to control, as well as environmentally destructive. Whenever possible, try to plant native species.

‘Bradford’ Callery Pear - this variety of ornamental pear has poor branch structure, multiple stems or leaders that lead to major branch breakage after 20 years of growth. Callery pear is also becoming invasive along roadsides and forest edges. Newer varieties such as ‘Cleveland Select’, ‘Chanticleer’, or ‘Aristocrat’ have improved branch structure.

Weak wooded species such as Willow, Silver Maple, Poplar, Siberian Elm, Cottonwood should not be planted near homes and structures.

Avoid planting invasive species such as Norway Maple (*Acer platanoides*), Tree of Heaven (*Ailanthus altissima*), Siberian Elm (*Ulmus pumila*), Royal Paulownia (*Paulownia tomentosa*), Russian and Autumn Olive (*Elaeagnus* spp.), and Callery Pear (*Pyrus calleryana*) that are displacing native plants and degrading habitat for native insects, birds, and animals.

Trees Under Attack

Some trees are under incredible stress and declining in our landscapes, in-part, due to summer droughts and environmental conditions, and introduced insects and diseases.

Sugar Maple - declining due to years of droughts, sensitive to road salts, heat and soil compaction. Also effected by Anthracnose (leaf fungal disease, and defoliation from pear thrips and leaf eating caterpillar such as elm span worm and gypsy moth.

Hemlock - declining due to years of droughts and insect feeding such as Woolly Adelgid, spider mites and scales.

American Beech - declining due to a canker causing fungi introduced into the trunk by tiny scale insects.

Native Flowering Dogwood - declining due to Anthracnose leaf and twig fungal disease and droughts. Prefers a well drained, shaded site.

For more information on plant insect and disease pests visit Penn State Integrated Pest Management website <http://woodypests.cas.psu.edu/>.



Proper Tree Care

Plant a tree and nature will take care of the rest, right? Not necessarily. The trees in our yards, neighborhoods, and along our streets are a valuable asset, and require our help to keep them healthy. Proper tree care is important because trees are an investment in the value of your home and the livability of your neighborhood. There is a "right way" and a "wrong way" to care for trees. Here are some tips you need to know to keep your trees healthy and working for you.

Never Top Your Tree:

Topping is the senseless practice of indiscriminately removing a majority of a tree's branches. Topping violates acceptable pruning practices, including ANSI-A300 National Pruning Standards. Many



people think that topping will help their tree or make them small and safer, but in reality it is one of the worst things you can do to your tree!

Topping does not make your tree safe. Topping actually creates a more dangerous tree because it allows decay to enter the branches, slowly weakening the tree internally, shortening its life, and in many cases causing future storm damage. Before you prune your trees, get some advice from the local Shade Tree Commission or Penn State Cooperative Extension office about proper pruning and how to select a trained and qualified arborist.

Keeping Your Tree Healthy



Start by planting the right tree in the right place. Where space is limited, such as under power lines, select tree species that have a mature height of 20-30 feet.



Mulch around your trees to reduce compaction, protect soils from drying out, and to keep lawn mowers and string trimmers from wounding the bark. Use a ring of wood chip 2-4 inches deep, and don't pile it up on the trunk - that can hurt the tree causing decay and rot to enter the trunk.



Water your trees. Especially during droughts and when they are newly planted. A young tree will need about 10 gallons of water per week during the hot summer months.



Leave the roots alone. Avoid cutting roots or changing the grade and burying roots, which will slowly kill a tree.

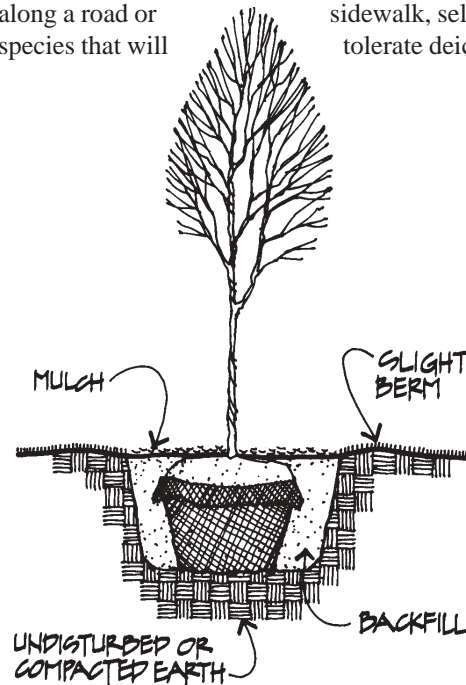


Always prune your trees properly or hire a qualified arborist to prune your trees according to ANSI-A300 National Tree Pruning Standards.

Planting the Right Tree for the Right Site:

Selecting a tree that will survive and flourish isn't always as easy as a trip to the garden center. We often select a tree for its aesthetic attributes such as showy spring flowers, fall color, or unique leaf or bark without even looking at the site and conditions it will have to grow in. Before you get your heart set on a certain tree for your yard, there are several things you need to look at and think about.

Evaluate the above and below ground growing space, If high voltage electric lines exist overhead, select a tree species that will mature at 25-30 feet, such as crabapple, tree lilac, hedge maple, or ornamental cherry, to name a few. Examine the soil texture, pH, drainage and compaction levels. If the soils are a heavy clay or drain slowly, that will limit species selection because many trees can not survive in these soils. Soil pH is a measure of acidity and 7.0 or greater will not grow healthy oaks and red maples. If the tree will be planted along a road or sidewalk, select a species that will tolerate deicing salts.



Tree Care Websites:

<http://pubs.cas.psu.edu/>
<http://www.isa-arbor.com/>
<http://www.treelink.org>

Mulch – Too Much Can Harm Your Tree

Mulching trees and landscape beds is a terrific way to add organic matter and nutrients, conserve soil moisture, and prevent lawn mowers from injuring trees. It mimics the 'duff' or litter layer of a forest, that is critical to soil and plant health.

But too much of a good thing can hurt your trees and shrubs. The main problem is how mulch is being applied. Mulch is being put on way too thick and piled high on trunks and stems. It looks like mountainous mulch volcanoes at the base of trees. When this is done, it creates a moist environment in which

opportunistic decay fungi attack the trunk and roots, causing root rots, crown dieback, a decline in health, and tree failures. Over-mulching also prevents gas exchange, suffocating roots and stems;

can lead to rodent chewing and stem girdling; nutrient deficiencies; and often causes roots to grow up into thick mulch, only to dry out in hot summers, or form girdling roots that encircle and kill trees.

A quick walk in the woods will illustrate how trees have a natural flare or taper where their trunks meet the soil (visible even on young trees). It is important that we not cover that flare with soil or mulch. Spread the mulch out in a layer that is no thicker than 3-4 inches, and don't pile it up on the trunks of trees and stems of shrubs.



Safety:

Never climb a tree to prune it yourself. If you are not trained as a tree climber or have the proper equipment and insurance, it is very dangerous. Leave it to the professionals. Never prune or climb trees that have electric lines running through them. Call the local utility company when tree branches are touching overhead utility lines.

Learn More about Community Trees

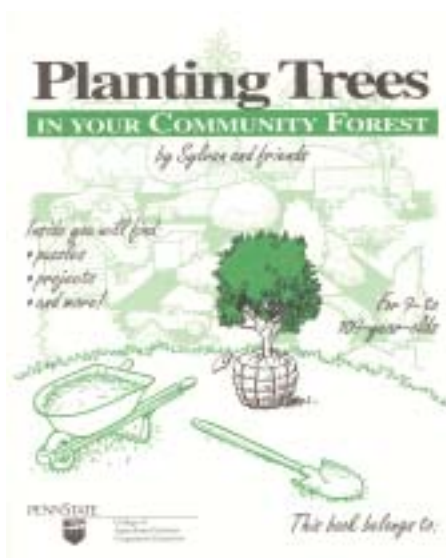
Before someone repairs an automobile, rewires the electrical in their house, or builds an addition to their home, they would do one of two things - hire a professional or learn more about the subject and develop the skill. The same should be true of planting and caring for trees around your home. Whether you want to learn about tree species that will survive in your landscape, how to properly prune a tree, or what insect or disease is affecting the leaves, there is a wealth of information available from various websites, county cooperative extension offices, or local shade tree commissions.

In the world of trees there are many myths and misconceptions. Horticultural research continues to change the way we plant and care for trees. When seeking information about trees and their care, make sure you are getting research based information from universities and state agencies. Penn State Cooperative Extension holds various workshops, short courses and conferences about trees and their care throughout the year. Beware, there is still a good bit of outdated information out there, as well as companies trying to sell a product that has not been fully tested.

What You Can Do to Help Your Community's Trees

In communities, trees are facing another deadly foe - the budget ax! Because trees, parks and green spaces are mistakenly thought to take care of themselves, they are often the first to feel the budget ax. Policy makers must understand that trees provide more than just beauty. They are an integral part of a community. With proper planning and care our "green infrastructure" can increase in value and contribute to our quality of life.

Each of us living in a community has a role to play in our environment. Get involved in your community's tree program by volunteering to serve on a municipal tree commission or committee. If your community doesn't have a tree committee or program, help get one started. For more information about forming a community forestry program contact Penn State Cooperative Extension or the Pennsylvania DCNR Bureau of Forestry.



Informational Websites

Penn State Natural Resources Extension Program <http://rnrext.cas.psu.edu/>

PennScapes <http://www.pennscapes.psu.edu/pennscapes/default.htm>

Penn State Integrated Pest Management <http://woodypests.cas.psu.edu/>

Cornell University Urban Horticulture Institute <http://www.hort.cornell.edu/department/faculty/bassuk/uhi/>

Tree Link <http://www.treelink.org>

International Society of Arboriculture <http://www.isa-arbor.com>

Common Trees of PA <http://www.dcnr.state.pa.us/forestry/commontr/common.htm>

Invasive Species <http://www.invasiveplants.net/>

USDA Forest Service September 11th Living Memorials Program <http://www.livingmemorialsproject.net/>

USDA Forest Service Urban Forestry <http://www.fs.fed.us/ucf/>

Tree Care Industry <http://www.treecareindustry.org/>

Western Center for Urban Forest Research <http://wcufr.ucdavis.edu/>

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