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Introduction

This guide is designed to help you plan, plant, and provide for trees and shrubs. It also contains disposal advice on brush and tree waste. By following the proper methods of shrub and tree care, you can help prevent excess wood waste that requires disposal.



Plan Before Purchasing

Keep the following in mind when choosing trees and shrubs.

- ◆ Limit the selection to trees and shrubs of reliable hardiness in your area. Planting species appropriate for Anoka County soil is the best way to reduce tree and brush waste. A few suggestions are listed on the chart below.

| Trees | Shrubs |
|------------------------|-----------------------------|
| Birch - Paper or River | Black Chokeberry |
| Black Cherry | Elderberry |
| Maple - Sugar or Red | Hazelnut (American Filbert) |
| Norway Pine | Juneberry (Serviceberry) |
| Oak | Ninebark |
| White Cedar | Red-osier Dogwood |

- ◆ Plant young trees and shrubs. When transplanted, smaller plants grow better than larger plants; the larger the plant, the more stress when it is moved.
- ◆ Plant species appropriate for their location. For example, if a plant has messy fruit, thorns or nuts, you may not want to plant it by a doorway or driveway.
- ◆ Consider the purpose of the tree. Is it to provide shade, wildlife habitat, food, attractive seasonal interest, screening or some other purpose?

- ◆ Choose the tree to fit the site. Know what shape a tree will form as it grows; don't plan on trimming the tree to fit the space. Find out what your sapling or seedling looks like as a mature tree so there are no surprises. Remember that the roots of the tree or shrub will stretch 36" down and 3 - 4 times the height of the tree across. Mark off the space a mature tree will need before planting.

- ◆ Determine availability of suitable trees by contacting one of the following:

- University of Minnesota Extension Web site www.extension.umn.edu. Click on Garden, Yard and Garden, Trees and Shrubs for a list of publications. To speak to someone directly, the Anoka County Extension number is 763-755-1280.

- Anoka Conservation District 763-434-2030 www.anokaswcd.org. Every year the Conservation District conducts a native tree and shrub sale.

- Local garden centers and nurseries have staff that can assist you to choose the right tree or shrub for your site.





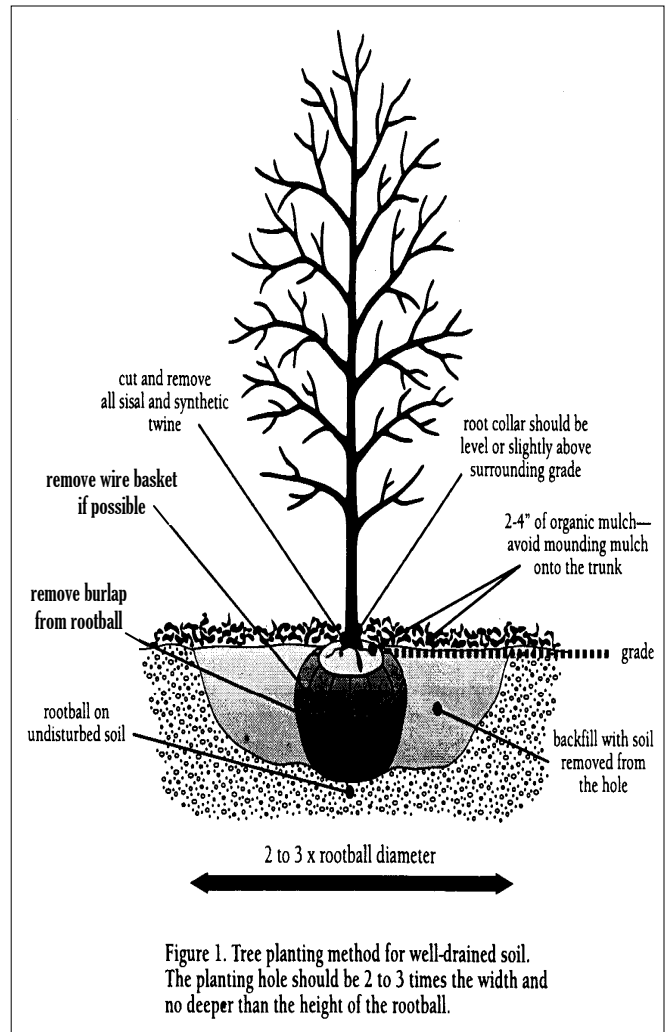
Planting Bare Root and Containerized Plants

Now that you have planned where you want to put your new tree or shrub, you are ready to plant. The ideal time to plant trees is during the dormant season in the fall after leaf drop or early spring before budbreak, however, trees properly cared for in a nursery can be planted throughout the growing season.

Trees are often weakened by poor planting techniques. Follow these planting steps and your trees and shrubs will have the best chance for survival.

Proper Planting Techniques:

1. Before digging, locate all underground utilities by calling Gopher State One Call at 651-454-0002 Monday through Friday 7 a.m. to 5 p.m. or visit www.gopherstateonecall.org.
2. Keep roots of bare root trees and shrubs moist and protected at all times prior to planting. Prune away any broken or damaged roots before planting.
3. Remove all grass within a 3'- 5' circle around the planting area and loosen the soil using a shovel or rototiller no deeper than the rootball. This will allow the root system to spread out easily and improve the growth of the tree.
4. Dig a hole, at a minimum, about 2 - 3 (preferably 4 - 5) times the width of the rootball and no deeper than the height of the rootball. See Figure 1.
5. Identify the trunk flare or root collar where the roots spread at the base of the tree. Expose if necessary. This point should be partially visible after the tree has been planted.
6. For containerized trees and shrubs, lay the container on its side and gently slide the plant out. You may need to push on the sides to loosen it from the container. Cut and remove all sisal, synthetic twine, burlap and wire baskets from the rootball. Inspect the rootball for any encircling roots and score the roots in 3 - 4 places with a knife or pruning shears. Loosen roots to help them spread and remove encircling roots.
7. Set rootball in the center of the planting area on undisturbed soil. Plant the tree at the same depth or slightly higher than originally planted without crowding its roots.



8. Position tree so that the main stem is straight.
9. Backfill with a mixture of $\frac{1}{3}$ soil removed from the hole, $\frac{1}{3}$ loam or peat and $\frac{1}{3}$ compost to the soil around the root area. Make sure all materials are mixed thoroughly. Add the soil mixture a few inches at a time. **Gently** pack the soil to prevent air pockets.
10. Water the planting area. This will help eliminate air pockets and settle the soil. Do not reback the soil.
11. Construct a soil berm as a water-holding basin around the tree. Add 2"- 4" of organic mulch (compost, wood chips, pine needles) within the basin. Keep mulch 1"- 2" away from the stem to prevent excessive moisture from contacting the trunk.



Planting Seedlings

The best time to plant seedlings is in early spring after the frost is out of the ground. Spring rains and cooler temperatures will benefit the tree. The following steps will help improve the success of your planting.

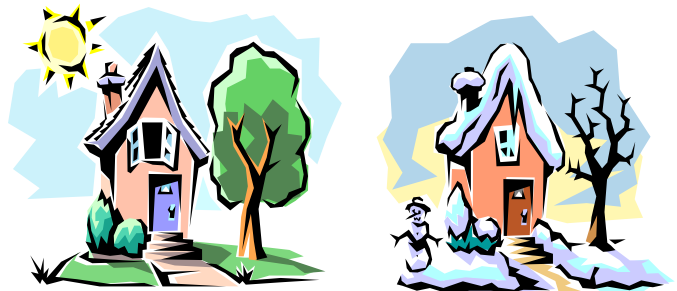
1. Follow the same steps that are on the reverse side of this page when preparing the planting site.
2. Handle seedlings carefully.
3. Keep plants in a cool place until planting time.
4. Check the roots for dryness. If dry, spray with a fine mist; never immerse or store trees directly in water.
5. Prune off damaged roots.
6. Dig a hole large enough to spread roots. When seedlings are planted at the proper depth, optimum growth and survival will be obtained. For very small seedlings, with a simple root system, make sure the root is hanging straight down and just lightly touching the bottom of the hole.
7. Place each plant in a separate hole, spread the roots, and fill the holes with soil, packing **lightly**.
8. Water – this this will eliminate air pockets and settle the soil. Do not repack soil.
9. Rake the soil evenly over the area and cover with 2"- 4" of organic mulch (wood chips, pine needles, compost, or leaves). This mulch will help eliminate weeds, retain soil moisture, and keep soil from eroding. Keep mulch 1"- 2" away from the stem.



Energy Savings with Trees

Carefully placed trees can provide cooling summer shade, protect your home from chilling winter winds, and maximize energy gains from winter sunlight. This can cut annual home energy use as much as 25 percent.

- ◆ Trees planted on the east, west and northwest sides provide the best shade during morning and afternoon hours in summer, while minimizing winter shade.
- ◆ Because the sun is directly overhead at midday in summer, trees on the south will not shade the house unless they are planted very close to it.
- ◆ Trees on the south will produce unwanted shade in winter, when the sun is at a low angle.



For an average frame house, air infiltration from wind can cause about one-third of the winter heat loss. Heat loss can be significantly reduced by planting a windbreak in the direction from which prevailing winds blow.

- ◆ Plant evergreen trees close together to create a complete wall against the wind. Choose trees adapted to your region, with branches close to the ground. (Maximum protection occurs when the windbreak is no more than the distance of one or two tree heights from the house.)
- ◆ Plant trees or shrubs to shade air conditioning compressor units – it can increase cooling efficiency as much as 10 percent. (If you're using an evaporative cooler, this advice doesn't apply. They need the sun to operate efficiently.)

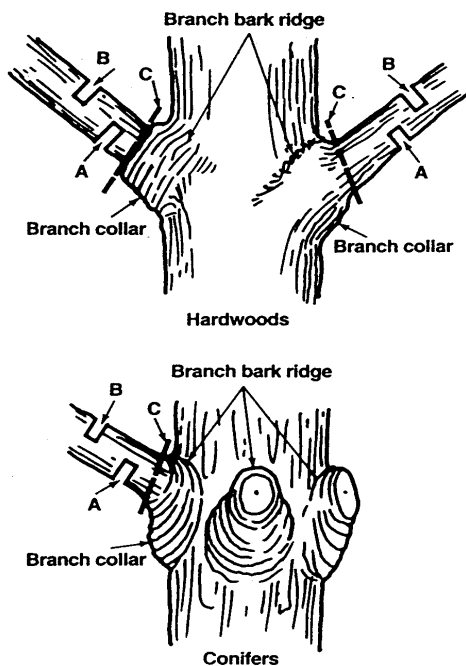


Pruning

Proper pruning is one of the best things you can do for your trees, and improper pruning is one of the worst. Arm yourself with knowledge about how to prune properly. If you lack confidence in the particular pruning needs of your trees or shrubs, contact your local certified arborist, your city may have listings. You can also contact the University of Minnesota Extension in Anoka County at 763-755-1280 or www.extension.umn.edu, click on Garden, Yard and Garden, Trees and Shrubs, and search for information on pruning.

Pruning should always be performed sparingly. Overpruning is extremely harmful because without enough leaves, a tree cannot gather and process enough sunlight to survive. Never top off your trees; it causes extreme stress to the tree and destroys its natural beauty.

Timing is everything in pruning. Understand the reasons for pruning and identify the different pruning approaches and cuts. See the following diagram on proper pruning procedures.



- Proper pruning procedures:
- The first cut (A) undercuts the limb.
 - The second cut (B) removes the limb.
 - The final cut (C) should be just outside the branch collar to remove the resultant stub.

Young Trees

It is best to prune a tree when it is young since it causes less stress to the tree. It is much easier to cut an unwanted branch when it is 1" in diameter rather than 5" in diameter, because it leaves a much smaller wound on the tree.

Mature Trees

The goal of pruning mature trees is to maintain their structure and form by removing dead branches, and by thinning large branches to reduce weight and wind resistance, while still allowing light penetration to maintain inner growth.



Pruning is best done in the winter, after all the leaves have fallen off the tree, for the following reasons:

- ◆ Growth is increased since the energy stored in fewer roots and branches is channeled to fewer growth points the following spring.
- ◆ The absence of leaves makes crossing branches and weak spots easily seen.
- ◆ Equipment can be moved closer to trees on frozen ground when lawn damage is not a great concern.
- ◆ The risk of spreading disease via pruning cuts is minimized. Insects that carry oak wilt from infected trees to fresh pruning cuts during the spring and summer are not present during the winter. **Never prune oak trees from April 15th through September 1st when trees are most susceptible to disease.**
- ◆ Less impact on recreational activities.

To aid in the recovery of pruning wounds, water and mulch your trees well in the spring. A healthy tree will heal on its own. Prune carefully; once a tree is damaged, it is damaged forever.



Protecting Shrubs and Trees

It is vital to the health and survival of trees and shrubs that you protect them from the dangers they face in your backyard. Unfortunately, between lawnmowers and weed whips damaging the base of the tree, improper pruning and planting, or the wrong tree in the wrong spot, we can be a real threat to our own plants.

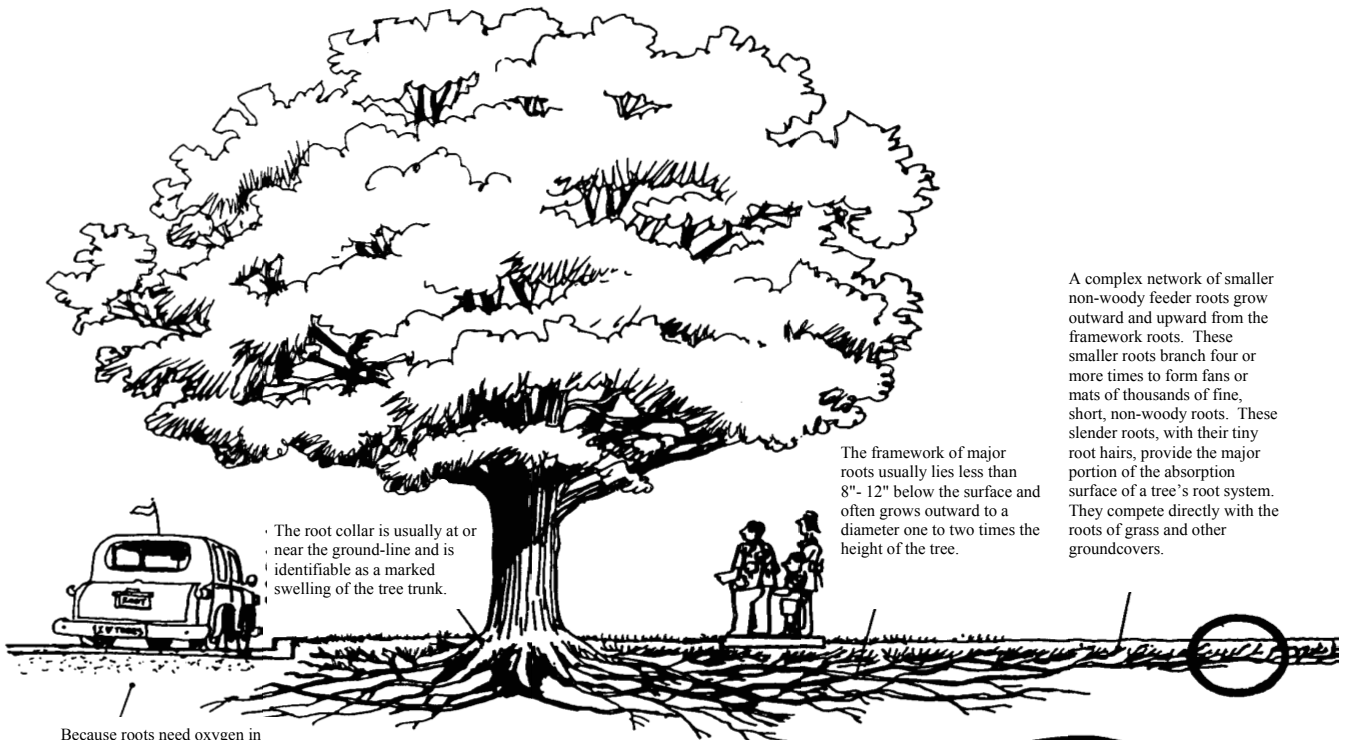
A damaged tree can become more susceptible to disease. The healthier the tree, the less tree waste you will have to dispose of, so preventing damage is critical.

- ◆ Prune properly and only when needed. See page 4 for guidelines.
- ◆ Do not mow or use a weed whip right up to the base of trees and shrubs. Place mulch several feet around the base of your plantings to create a natural barrier.

- ◆ Keep pets away from small trees and shrubs. Do not tie pets where they can become tangled in the branches.

- ◆ Protect your plants from insects and diseases. Page 6 has information on how to obtain helpful fact sheets.

- ◆ The figure below illustrates how much space a healthy tree needs to grow. A tree's root system is fairly shallow and extends far beyond the drip line of the tree. Minimize disturbing the soil around your trees. The more its growing area is disturbed, the more stress on the tree.



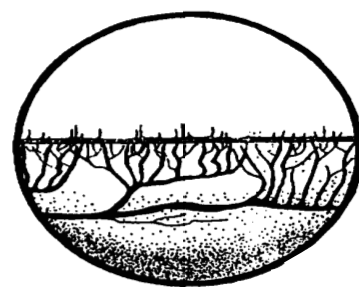
The root collar is usually at or near the ground-line and is identifiable as a marked swelling of the tree trunk.

The framework of major roots usually lies less than 8"- 12" below the surface and often grows outward to a diameter one to two times the height of the tree.

A complex network of smaller non-woody feeder roots grow outward and upward from the framework roots. These smaller roots branch four or more times to form fans or mats of thousands of fine, short, non-woody roots. These slender roots, with their tiny root hairs, provide the major portion of the absorption surface of a tree's root system. They compete directly with the roots of grass and other groundcovers.

Because roots need oxygen in order to grow, they don't normally grow in the compacted, oxygen poor soils under paved streets.

Note: a few species have a taproot that grows straight down 3'- 7' or more until they encounter impenetrable soil or rock layers, or reach layers with insufficient supplies of oxygen.





Providing Proper Care

Provide proper care for new trees and shrubs. Water regularly to feed new growth. This keeps them healthy so they can use their natural defense system to ward off disease. The following practices will help ensure success.

◆ Watering

Water regularly the first 2 years after planting – 1" every 7 - 10 days if there is no rainfall. One way to check if your tree needs moisture is to dig down with your finger above the roots. If the soil is still wet from a recent rain or previous watering, delay watering until it dries out some. Create a soil berm around the tree to funnel moisture to the base. Let the hose run a trickle at the base of the tree or wrap a soaker hose around the tree to reach throughout the planting area for 3 - 4 hours. Remember to continue watering trees throughout the fall until the ground freezes.

◆ Mulching

Organic mulches such as wood chips, grass clippings, leaves and compost help to reduce water loss from the soil while keeping roots cool. Stone chip mulches tend to build up and store heat, requiring more water. Spreading the mulch out beyond the crown 3"- 4" is best. Pruning paint is not necessary and may actually interfere with the healing process of a tree. To aid in the recovery of pruning wounds, water and mulch trees well. A healthy tree will heal on its own.

◆ Fertilizing

Fertilizing trees and shrubs can keep them strong and looking good, but fertilizing is often over done. If you fertilize the soil, you don't need to fertilize the trees and shrubs. It is best to fertilize trees after they are completely leafed out in the spring and once again in the fall.



◆ Pruning

Limit pruning to removal of dead and damaged branches. Knowing when and how to prune is essential to the health of trees and shrubs.

See page 4 for proper pruning instructions.

Pruning paint is not necessary and may actually interfere with the healing process of a tree. To aid in the recovery of pruning wounds, water and mulch trees well. A healthy tree will heal itself.

◆ Staking and Guying

Do not stake trees unless wind is a problem or a tree starts to lean. If you feel you must stake a tree, be careful not to damage it with wires that may cut through the bark. Use wide belting and support it with a flexible stake to avoid damage. Allow room for the tree's growth and remove the belt when the tree corrects itself.

◆ Wrapping

Wrapping is suggested on young, smooth barked trees like Maple trees that are susceptible to sun scald in the winter. Light colored or white wraps are best since they reflect the sun. Paper wraps should be applied in November and removed in spring each year. If a wrap is left on, insects can get caught underneath and kill the tree.



Additional Resources

Trees are one of the greatest assets to home properties so we hope this guide assists you in properly caring for your trees and shrubs. If after reading this guide you still have questions, the University of Minnesota Extension in Anoka County, through the Master Gardener Program, has many resources to help you learn how to select, plant and care for trees and other plants in your yard and garden.

Master Gardeners offer classes throughout the year and free plant diagnostic clinics. A year-round phone service is also available where callers can leave a message to have their yard and garden questions answered. Master Gardener volunteers will research solutions before returning calls. To find out about upcoming classes, or to order publications call 763-755-1280. Information is also available on the Master Gardener blog site at blog.lib.umn.edu/mgweb/anoka/. You can also access information at the University of Minnesota Extension Web site www.extension.umn.edu. Click on the Garden tab, select Yard and Garden, and under Related Resources, a list of topics appear.



Disposal Outlets

Circumstances out of your control can cause damage to trees and shrubs, which results in wood waste that requires disposal. State law prohibits mixing brush and tree waste in with your garbage. Tree waste may be chipped into mulch or used as firewood.

Tree waste may be disposed of by contacting your garbage hauler, a tree service company, or by transporting it to one of the disposal sites listed below. A fee is charged. Some locations are open seasonally; call for information. To find on-site tree services, including trimming, removal, chipping and pickup, check the local phone book under Tree Service.

Anoka County Compost Sites

- Bunker Hills Compost Site 13285 Hanson Blvd, Coon Rapids..... 763-767-7964
- Rice Creek Compost Site 7701 Main St, Lino Lakes 651-429-3723

Central Wood Products 19801 Hwy 65 NE, East Bethel..... 763-753-7374

Elk River Landfill 22460 Highway 169 NW, Elk River..... 763-441-2464

SRC Transfer Station and Recycle Center, 6320 East Viking Blvd, Wyoming 651-462-1099
(tree waste up to 4" in diameter; no stumps)

Walter’s Recycling & Refuse, Inc 2830 – 101st Ave NE, Blaine..... 763-780-8464
(tree waste up to 4" in diameter; no stumps)

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Information provided by the Anoka County Board of Commissioners.

