

TREE PLANTING GUIDE

PREPARE SITE

If possible, prepare the site before the tree arrives. Keep the root ball well watered and in shade until ready to plant.

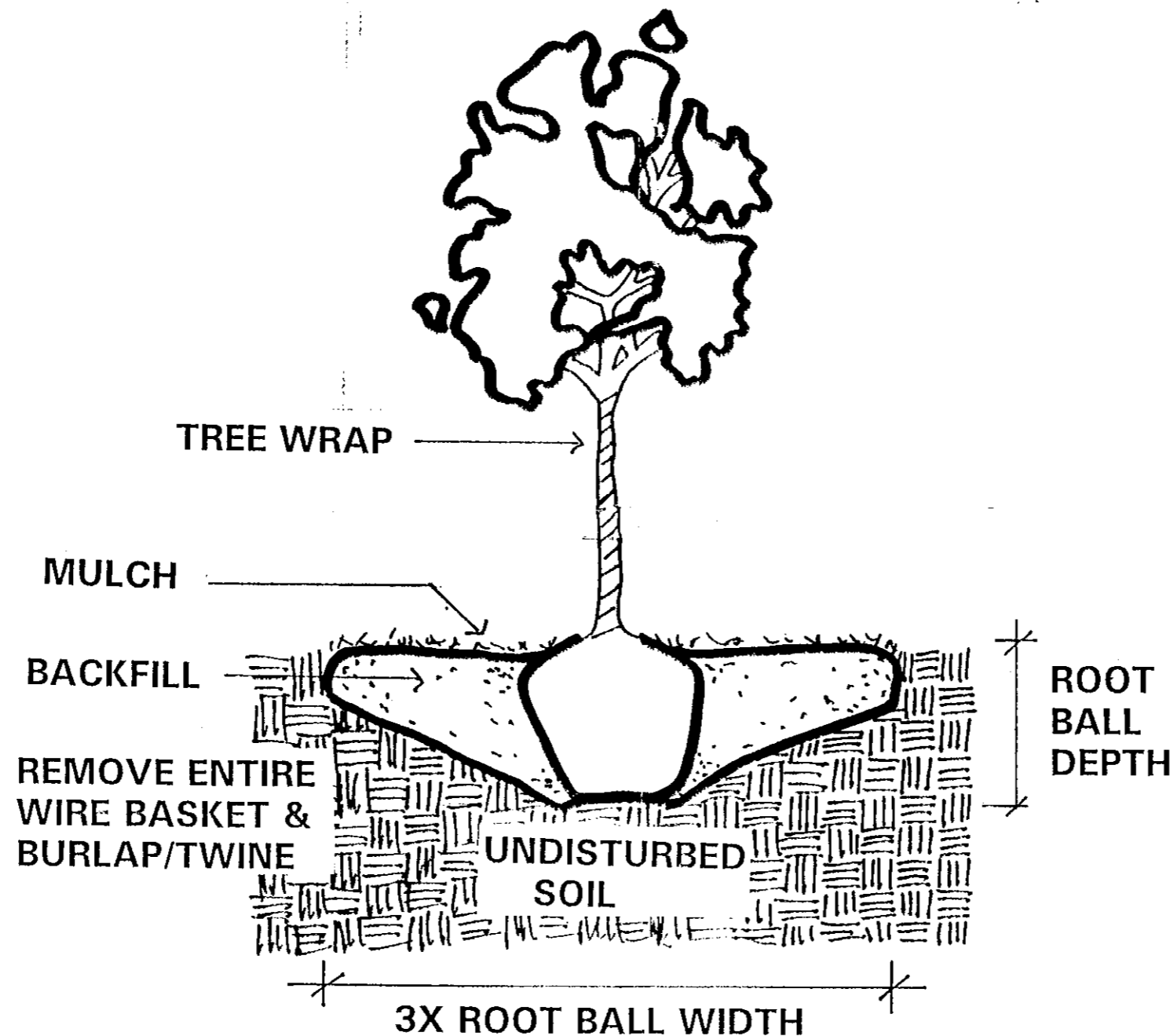
- ☼ Measure the height and diameter of rootball.

- ☼ Dig to the depth of rootball. Leave bottom of hole undisturbed.

- ☼ Dig space at least 3 times the diameter of rootball.

- * If side of hole appear to be smooth, rough up with shovel.

- * Do not amend soil unless planting in building rubble, poor or severely disturbed soil.



PLANTING

- ☼ Carefully remove burlap, plastic rootball wrap, rope, wire and/or metal baskets ☼

It is possible to clip bottom of wire basket and part of side wire and still have enough basket for good support.

- ☼ Lift tree into planting space by rootball, not the trunk.

- ☼ Begin refilling with soil, water to firmly set tree.

- ☼ Remove wire basket and check for girdling roots. Prune dead or crushed roots and straighten or cut circling roots. Make clean cuts.

- * Complete filling with soil.

- ☼ Do not cover top of root ball with soil directly

- ☼ Water applied outside the root ball is not available to the roots. Unless water is applied directly to the root ball, the roots will quickly dry and the tree will die

- ☼ Irrigate several times slowly to settle soil and moisten root ball.

- ☼ Keep soil moist, not too wet

- ☼ Keep lawn at least 3 feet from trunk. This keeps mower and weed trimmers away.

- ☼ Mulch area, but keep 2-4" away from trunk to reduce disease problems



Call Before You Dig!

Before digging, always contact your local utility offices. In most areas, the utilities offer to locate and stake underground cables and pipes at no cost to you. Allow enough time for the utilities to schedule your inspection.



SPACING DON'T CROWD TREES

Distance between trees

Small trees (20-30')

Medium trees (30-50')

Large trees (50+)

What is Caliper?

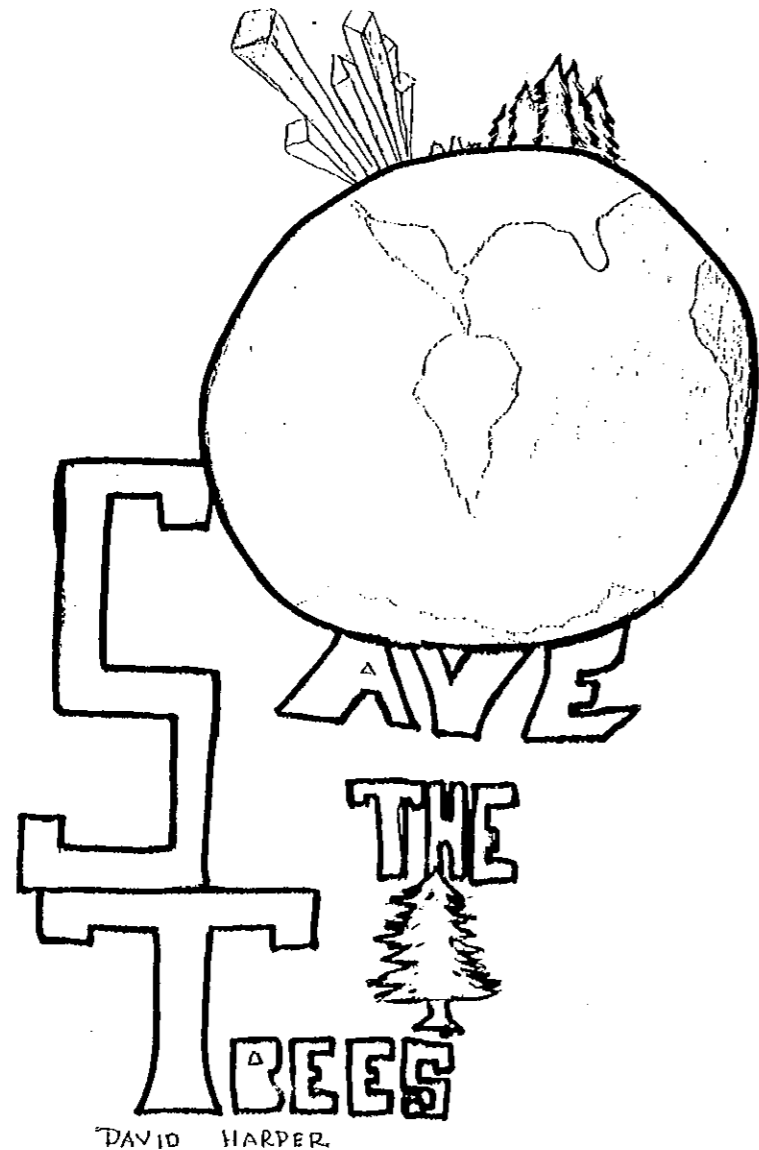
Trunk diameter on young trees is referred to as its caliper size. For standardization, this measurement is taken 6" above the ground on trees with a diameter of 4" or smaller, and 12" above the ground on larger planting stock. The diameter of larger trees is measured approximately 4 1/2 feet above ground level and is expressed as diameter breast high (DBH).

TREE CITY USA

The National Arbor Day Foundation sponsors the Tree City USA program with the cooperation of the state foresters who provide direct assistance to communities.

Eleven communities in Wyoming have received Tree City USA designations. They include, Afton, Buffalo, Cheyenne, Francis E. Warren AFB, Green River, Lander, Lyman, Mountain View, Powell, Torrington and Worland.

Communities of any population can qualify for recognition for their community forestry programs by becoming Tree City USAs. There are four standards that need to be met to receive the Tree City USA designation. They are 1. Establish a tree board or department, 2. Enforce a city tree ordinance that determines public tree-care policies for planting, maintenance and removals, 3. A community forestry plan supported with an annual budget of at least \$2 per capita, and 4. Hold an Arbor Day Celebration and tree planting with a proclamation by the mayor declaring the observance of Arbor Day in your community.



PHYSICAL CHARACTERISTICS OF NURSERY STOCK

ROOTS

- ☉ Is the root ball adequate for the trees's size? (See chart)
- ☉ Are large, circling roots not present?
(Check this by feeling down the edge into the top 3" or 4" of the soil ball or pot.)
- ☉ Are pruned roots cut cleanly and no wider than an average finger?
- ☉ Are soil and roots joined tightly, indicating gentle handling?

TRUNK

- ☉ Is it reasonable straight?
- ☉ Does the trunk taper nicely?
- ☉ Is the bark free of cuts and scrapes? (Reject trees with wounds wider than 1/4 t h e circumference of the trunk.)
- ☉ Are pruning cuts developing callus in a complete circle?
- ☉ Is it free of frost cracks, splits, swollen or sunken areas and evidence of insect injury?

CROWN/BRANCHES

- ☉ Is the tree symmetrical?
- ☉ Is there a single, well developed leader, multi-leaders?
- ☉ Are buds plump and healthy looking?
- ☉ Are branches well distributed around the trunk and considerably smaller than the trunk?
- ☉ Do branches approach the ideal spacing of 8" - 12" apart and form at least a 4 5 degree angle away from crossing rubbing with the trunk?

TRANSPLANT SHOCK

George Ware of the Morton Arboretum explains that any transplanted tree undergoes severe physiological shock. This is because the tree's capacity for water absorption is greatly diminished from root loss while its demands for water continue. The challenge is to keep root hairs from drying or being damaged and to use planting techniques that induce rapid root growth so a favorable root/ crown ratio can be restored before drought, insects or some other stress event occurs.

TREE SELECTION

CHOOSE THE RIGHT TREE FOR THE SITE

All trees are "the right tree" in their natural environments. Trees are often wronged by being planted in a wrong location. There are four points to consider in tree selection.

1. Determine the purpose or function of the tree.

- ◆ Summer shade
- ◆ Windbreak
- ◆ Privacy screen
- ◆ Noise abatement
- ◆ Aesthetics
- ◆ Wildlife

2. Write down the limitations of the site.

- ◆ Overhead wires (How high?)
- ◆ Confined root zone
- ◆ Dry climate
- ◆ Clay soil
- ◆ Available water
- ◆ Wind, strong/continuous
- ◆ Seasonal temperature extremes
- ◆ Lawn present
- ◆ Compaction (Near driveways)
- ◆ Soil type
- ◆ Underground utilities
- ◆ Sidewalks/driveways

3. Select the species or cultivars to plant that best matches the above conditions, then decide on these characteristics

- ◆ Evergreen/deciduous
- ◆ Fall color
- ◆ Shape
- ◆ Fruit/flowers/fragrance
- ◆ Low nuisance potential
- ◆ Growth rate
- ◆ Foliage color
- (Seed pods, etc)

4. Examine the trees before purchased; buy for quality. See following section.

- ◆ Roots
- ◆ Trunk
- ◆ Crown/branches

CONSTRUCTION SITE

- ◆ Plan in advance to protect established trees on new construction sites.
- ◆ Fence off wide areas around the trees to protect roots and avoid compacted soil.
- ◆ Don't allow equipment or materials to be stored near the trees.
- ◆ Don't change grade levels or cut tree roots when excavating.

XERISCAPE

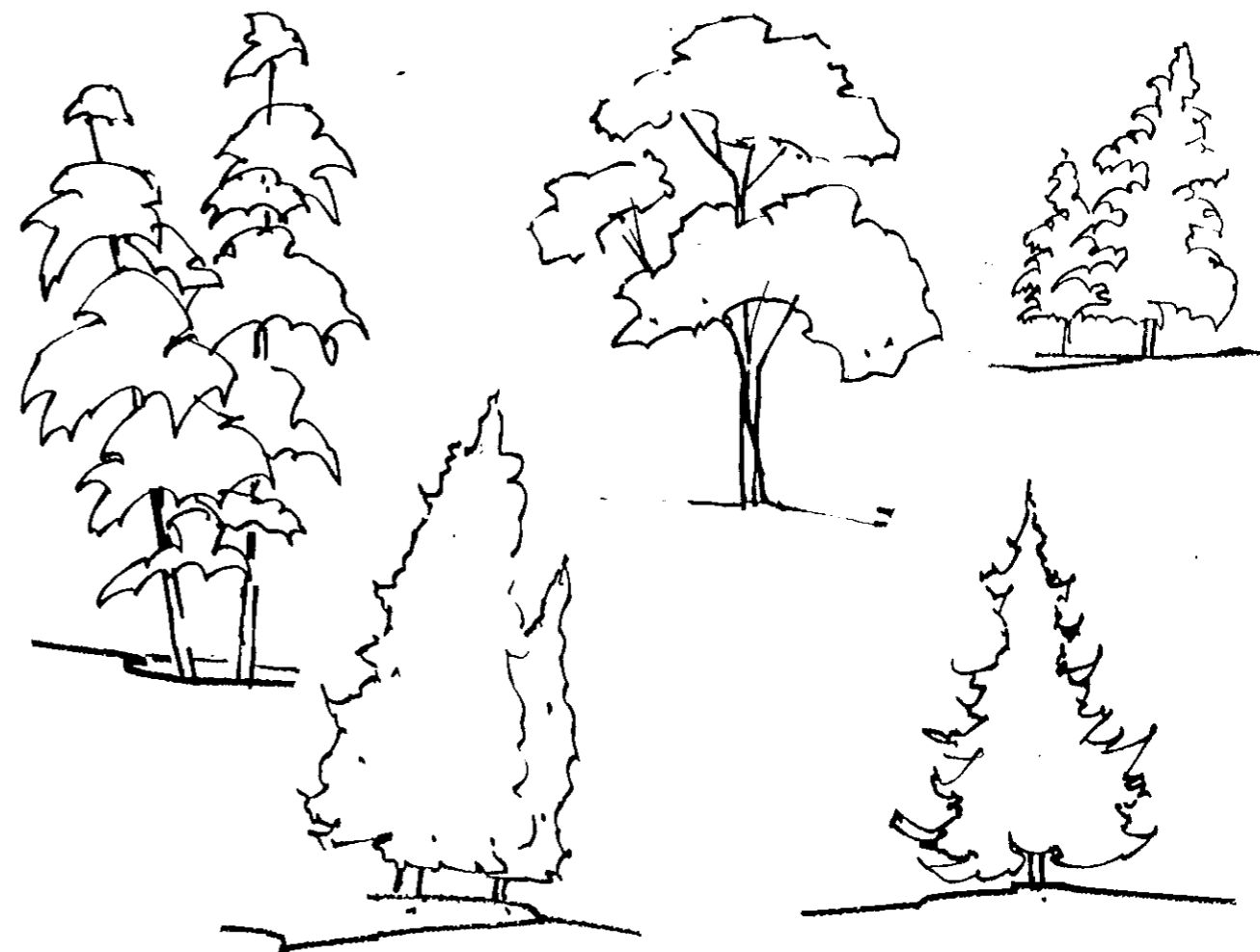
Wyoming is no stranger to keeping trees growing with little water and lots of wind. Xeriscaping isn't a new concept, but we can learn from some of the newest research.

Xeriscape (zir' i scape) is an integrated approach to landscape water conservation. Xeriscape was coined from the Greek work "xero" for dry and landscape to mean dryscape or low water use landscaping.

SEVEN WATER CONSERVATION FUNDAMENTALS

- ◆ Planning and Design
- ◆ Efficient, Zoned Irrigation
- ◆ Use of Mulches
- ◆ Appropriate Maintenance
- ◆ Soil Improvement
- ◆ Limited Turf Areas
- ◆ Use of Low Water Demand Plants

Water shortages hit the community forest first due to the cost of water. Properly employed, xeriscape landscaping will serve as a hedge against drought and the increasing costs of maintaining the community landscape.



WHEN IS ARBOR DAY?

The original Arbor Day was celebrated on April 10, 1872. In 1885 this tree planting holiday was moved to April 22 to honor the birthday of its founder, J. Sterling Morton. Later, in 1970, this date was selected as the first Earth Day.

New Castle is celebrating National Arbor Day on ^{May 5,} ~~April 28,~~ 2007 with a tree give away, reading the proclamation, providing educational information and an opportunity for the community to come together and get acquainted.

SOURCES OF INFORMATION

Tree City USA Bulletins. The National Arbor Day Foundation. 100 Arbor Avenue. Nebraska City, NE 68410.

American Association of Nurserymen. 2001. American Standard for Nursery Stock 2001. 111 N. Canal Street, Suite 545, Chicago, IL 60606-7276.

An Introductory Guide to Urban and Community Forestry Programs. 1999. USDA Forest Service, 1720 Peachtree Rd., N.W., Atlanta, GA 30367-9102.

Shigo, A.L. 2001 Modern Arboriculture, Shigo and Trees, Associates, 4 Denbow Road, Durham, NH, 03824-3105. 424 pp.

International Society of Arboriculture. 2000. New Tree Planting. P.O. Box 908, Urbana IL, 61801.

Town of New Castle
New Castle, Colorado
Prepared by LaRue Wentz

New Castle

Tree Planting Guide

GETTING STARTED

Community tree planting programs are exciting for everyone. A successful tree planting program includes several important steps.

- ◆ Tree selection
- ◆ Location
- ◆ Planting
- ◆ Care

Planting a tree is the ultimate act of optimism and sharing. It is the one specific contribution within reach of everyone to help improve the environment; thanks for the air we breath, the joy of birds singing, the summer shade and the calming beauty of leaves.

The benefits of trees are given without prejudice; and the tree planting offers a common ground and a natural bond among all of us. A big part of the success of tree planting is derived from the companionship of working together to beautify a neighborhood, improve a park or yard, or downtown spaces.

Trees planted, watered and cared for are ensured a long, healthy life. Spring planting is preferred for development of a good root system. When a tree is transplanted, some injury occurs to the root system. Because the roots play a major role in supplying both water and mineral elements to the tree, the following steps should assure a successful tree planting. Success being a healthy tree for many years.



LaRUE

LOCATION

WILL TREE FIT WHEN FULLY GROWN?

◆ Distance from tree to building

Minimum of 10' for small trees
Under 25' mature height
Minimum of 25' for medium trees
Up to 50' mature height
Minimum of 35' for large trees
Up to 80' high

◆ Space for root and trunk growth

Pavement nearby
Underground utilities
Septic/sewer system
Sidewalks
Vision for driveways, along streets
and at intersections and alleys

◆ Overhead power lines

Select small growing tree
Under 25' high
Avoid planting under power lines

◆ Exposed soil surface (no pavement) and tree size

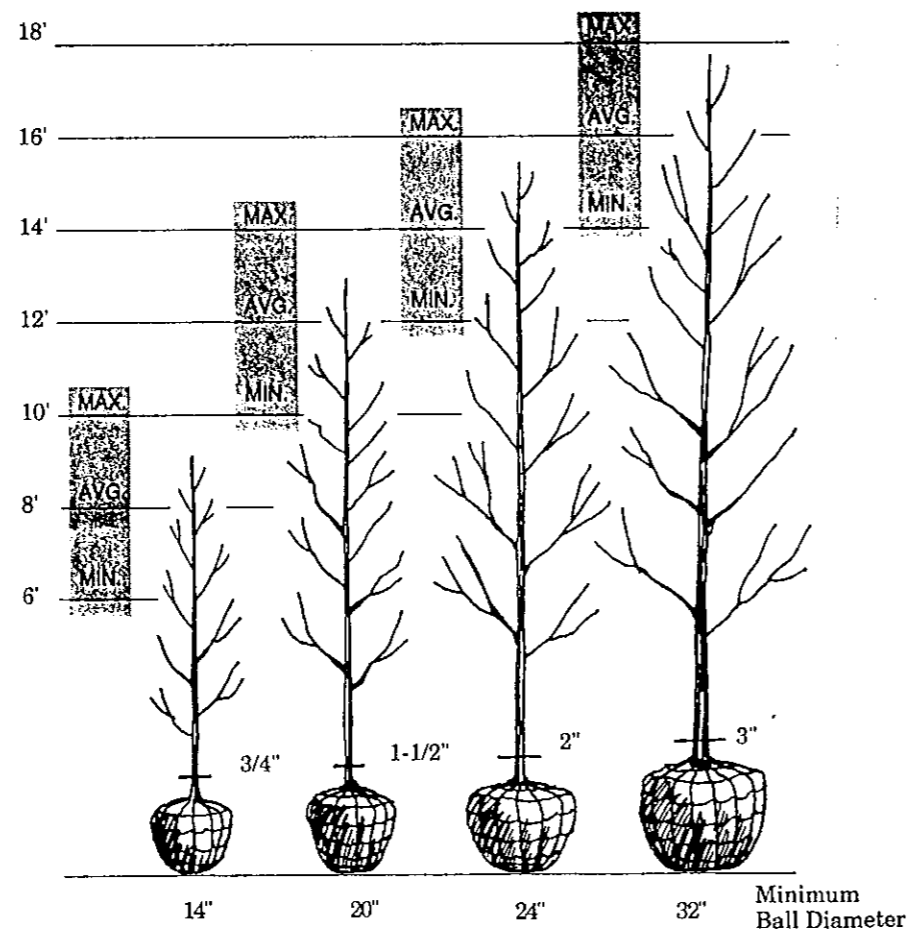
10'x10' area, use small tree
20'x20' area, use medium tree
30'x30' area, use large tree

◆ Planting strip width and tree size

3+ wide, use small tree
4-7' wide, use medium tree
8' or more wide, use large tree

ROOT BALL - TREE SIZE PROPORTIONS

To reduce transplanting shock and assure that adequate feeding roots are moved with the tree, the American Association of Nurserymen have established standards for height diameter relationships and root ball sizes. This chart illustrates these standards for most deciduous shade trees. A more complete range of sizes may be found in American Standard for Nursery Stock.



WATERING

- △ Apply water directly to the root ball
- △ Water 2 - 3 times a week for the first week or two then once every 5 to 7 days
- △ Keep soil moist, not wet or waterlogged
- △ Break berms in winter to allow drainage
- △ Normal lawn watering usually does not provide adequate water to newly planted trees
- △ If in doubt about watering, dig a small hole at the edge of the root ball to check for saturated soil or standing water. These conditions indicate over-watering and/or poor drainage. A dry rootball indicates insufficient watering

AVOID INJURIES

- ▶ Prevent lawn mower and string trimmer damage to the bark
- ▶ Remove plastic nursery tree ties
- ▶ Never use wire or rope to tie around the trunk or branches of a tree
- ▶ Tie trees loosely, allow room for expansion (growth)
- ▶ Remove stakes and ties as soon as possible
- ▶ Keep stakes low to avoid branch injury
- ▶ Avoid cultivation, e.g. flower beds around trees

FERTILIZING

Avoid fertilizing shade trees until late spring of the second year following planting. Fertilizers can "burn" roots or stimulate crown growth faster than the roots can supply water.

PRUNING

Newly planted trees should be given only minimal pruning. Leaves manufacture the food needed for root growth, so the young tree needs as much of its crown as possible. Prune only broken or dead branches. When branches are rubbing against each other, select the weakest branch to remove.

See bulletin for correct pruning cuts.

SOIL TYPE

Determine the soil type - Pick up a handful of moist soil and squeeze.

Clay will remain in a tight, ridged lump. Sandy soil will crumble when the hand is opened. Loam will hold its shape, but will crumble if poked.

TREE WRAP

Young trees, particularly thin-barked types such as birch, honeylocust and crabapples may be sun-scalded during the first year or two after transplanting. This injury, usually occurs on the southwest sides of trees and is caused by sudden temperature changes and water loss in late winter. Wrapping the trunk prior to winter will reduce this problem. Remove wrap in the spring to prevent harboring of insects and disease beneath the wrap.

Use commercial crepe-type tree wrap. Start at the bottom, overlapping wrap by 1/2 width as it is applied upward to the second branch. Secure the top end with a staple or small tack. Do not use twine or tape to hold wrap in place because this may result in girdling of the tree.

STAKING

Stake only when necessary, such as unprotected or windy sites.

- * Always remove the nursery stake and ties
- * Use two stakes, one on either side of the root ball on large trees or extremely windy areas, 3 may be used
- * Place stakes perpendicular to the prevailing wind
- * Keep stakes as short as possible
- * Secure stakes in solid ground
- * Use webbed strap, 1 1/2" wide or wider with grommets, sessile twine or 10 or 12 gauge galvanized wire
- * Tie loosely, allow movement
- * Check frequently to be sure stakes or tie is not wounding or girdling tree
- * Remove stakes after one growing season

MULCH

Mulch is a tree's best friend. It reduces competing weeds and grass, retains soil moisture, prevents soil cracking, can protect the trunk from lawnmower damage and helps prevent soil compaction. Organic mulches such as wood chips or pine needles contribute to better soil structure and aeration as they decompose. Mulch to a depth of 3 to 4", being careful to leave 2-6" area around trunk clear.

RESEARCH

Research results suggest that height growth and trunk diameter increase significantly if the ground near the tree base is kept free of grass.

HANDLE WITH CARE

The goal of every tree planting is to have a vigorous, healthy tree that lives.

Trees are perishable products and must be treated accordingly. Reputable nursery operators know how to protect trees in shipment or while on display. These two rules will help keep your trees alive until they can be planted.

1. CARRY TREES CAREFULLY.

When transporting, load and unload gently, being careful not to break or scar branches. Always provide support beneath balled or potted plants. *Always handle the root ball not the trunk.*

Keep in mind the importance of protecting trees that are moved any distance. Make sure they have been watered and then wrap in burlap to prevent wind desiccation.

2. KEEP ROOTS MOIST.

Depending on the trees and how long they must be stored before planting, techniques to prevent drying vary. They include re-dampening the packing material around small bare root seedlings and storing in a refrigerator, cool cellar or garage between 30-40° F.

Bare root trees of all sizes may also be stored by placing the roots and their packing material under loose soil in a shallow trench. The garden is a handy place to do this.

When actually planting, continue to protect the roots from wind and sun by wrapping in wet burlap or carrying in a bucket with a mud, moss, sawdust solution (not pure water), or polymer.

Balled and burlapped, wire basket or potted trees should be checked for dryness by finger length probing into the soil. Sprinkle or water if necessary. Then store in a cool garage or shaded area out of the wind. Burlap tends to shed water, so water slowly and be sure the soil is moist by rechecking.

Tip: Buy early in the season to get the best selection of trees -- then plant without delay.

USEFUL TOOLS

- ♣ Large spades or shovels
- ♣ Large tarp to hold soil
- ♣ Heavy duty wire clippers
- ♣ Small pruning saw
- ♣ Measuring stick
- ♣ Pruning shears
- ♣ Heavy duty scissors
- ♣ Gloves