

## Buying High-Quality Trees

When you buy a high-quality tree, plant it correctly, and treat it properly, you and your tree will benefit greatly in many ways for many years.

When you buy a low-quality tree, you and your tree will have many costly problems even if you take great care in planting and maintenance.

### What Determines Tree Quality?

A High-Quality Tree Has:

- An adequate-sized root ball. If possible, check to ensure there are enough sound roots to support healthy growth.
- A trunk free of mechanical wounds and wounds from incorrect pruning.
- A strong form with well-spaced, firmly-attached branches.

A Low-Quality Tree Has:

- Crushed or circling roots in a small root ball or small container.
- A trunk with wounds from mechanical impacts or incorrect pruning.
- A weak form where multiple stems squeeze against each other or where branches squeeze against the trunk.

Any of these problems alone or in combination with the others will greatly reduce the tree's chances for a long, attractive, healthy and productive life.

When buying a tree, inspect it carefully to make certain it does not have problems with roots, injuries or form. (Remember "R.I.F." It will help you remember Roots, Injuries and Form.)

Here are some details on potential problems and some other considerations that you should be aware of when buying a tree.

### Root Problems

Roots on trees for sale are in three categories:

1. Bare roots, no soil; usually on small trees.
2. Roots in soil held in place by burlap or some other fabric. The root ball may be in a wire basket.
3. Roots and soil in a container.

### BARE ROOT STOCK —

Bare roots should not be crushed or torn. The ends of the roots should be clean cut. If a few roots are crushed, re-cut them to remove the injured portions. Use sharp tools. Make straight cuts. Do not paint the ends. The cuts should be made immediately before planting and watering.

### ROOT BALLED STOCK —

You should be able to see the basal trunk flare. The flare is the spreading trunk base that connects with the roots. Root balls should be flat on top. Roots in soil, in round bags, often have many major woody roots cut or torn during the bagging process.

The diameter of the root ball should be at least ten to twelve times the diameter of the trunk as measured 6 inches above the trunk flare.

Roots should not be crushed or torn. After placing the root ball in the planting site, cut the cords and carefully pull away the burlap or other fabric. Examine any roots that protrude from the soil. If many roots are obviously crushed or torn, the tree will have severe growth problems. If only a few roots are injured, cut away only injured portions. Use a sharp tool. Use care not to break the soil ball about the roots.

Cut the wire on wire baskets. Place the basket into the planting site. Cut away at least the top two wires without disturbing the root ball. Inspect exposed roots for injuries. If many roots are injured, the tree may have serious growth problems.

**CONTAINER STOCK —** Roots should not twist or circle in the container. Remove the root ball from the container. Inspect the exposed larger roots carefully to see if they are twisting or turning in circles. Circling roots often girdle and kill other roots. If only a few roots are circling, cut them away with a sharp tool.

Trunk flare should be obvious. Be on alert for trees planted too deeply in containers or trees "buried" in fabric bags. As with root balled stock, you

should be able to see the basal trunk flare with container grown plants.

### Injuries

Beware of injuries beneath trunk wraps. Trunk wraps may hide wounds, incorrect pruning cuts and insect injuries. Never buy a tree without thoroughly checking the trunk. If the tree is wrapped, remove the wrap and inspect the trunk for wounds, incorrect pruning cuts and insect injuries. Wrap can be used to protect the trunk during transit but should be removed after planting.

Incorrect pruning cuts are major problems. Incorrect pruning cuts that remove or injure the swollen collar at the base of branches can start many serious tree problems, cankers, decay and cracks.

Incorrect pruning cuts that leave branch and leader stubs also start disease and defect problems. Do not leave stubs.

A correct pruning cut removes the branch just outside of the collar. A ring, or "doughnut", of sound tissues then grows around the cut. Do not make cuts flush to the trunk. The closing tissues may form only to the sides of the flush cuts. Trunk tissues above and below flush cut branches often die. When the heat of the sun or the cold of frost occurs, cracks or long dead streaks may develop above and below the dead spots.

### Form

Good, strong form or architecture, starts with branches evenly spaced along the trunk. The branches will have firm, strong attachments with the trunk.

Squeezed branches with sharp branch angles signal problems. Weak branch unions occur where the branch and trunk squeeze together. As the squeezing increases during diameter growth, dead spots or cracks often begin to form below where the branch is attached to the trunk. Once this problem starts, the weak branch attachment could lead to branches cracking or

breaking during mild to moderate storms.

When several branches are on the same position on the trunk, the likelihood of weak attachments and cracks increases greatly. As the branches grow larger and tighter together, the chances for splitting increase.

Avoid trees with two or more stems squeezing together. As stems squeeze together, cracks often form down the trunk. The cracks could start from squeezed multiple leader stems, or where the two trunks come together.

If you desire a tree with multiple trunks, such as a birch clump, make certain that the trunks are well-separated at the ground line.

Remember, trunks expand in diameter as they grow. Two trunks may be slightly separated when small; but, as they grow in girth, the trunks will squeeze together.

Look for early signs of vertical trunk cracks. Examine branch unions carefully for small cracks below the unions. Cracks are major starting points for fractures of branches and trunks. The small cracks could be present for many years before a fracture happens. Always keep a close watch for vertical cracks below squeezed branches and squeezed trunks.

Corrective pruning helps. If your tree has only a few minor problems, corrective pruning may help. Start corrective pruning one year after planting. Space the pruning over several years.

Remove broken or torn branches at the time of planting. After a year, start corrective pruning by removing the branches that died after planting.

### Trees Have Dignity Too

Most nurseries produce high-quality trees. When you start with a high-quality tree, you are giving that tree a chance to express its dignity for many years.

## WATERWHEEL

### Conserving Water in the Landscape



*Note: This is part of a series of articles related to rural water issues.*

Traditionally, beauty and utility have been the purposes of home landscapes. Because water — in both quality and quantity — is becoming a limited resource, conservation has become a third goal. The homeowner can achieve all three by using careful, comprehensive planning.

You can reduce water consumption by 40 to 80 percent by following an appropriate sequence in designing and managing your site. This includes: a well-planned design, use of adapted, drought-tolerant plants, proper irrigation, soil improvement, mulches and appropriate, timely maintenance.

Careful planning must precede construction and planting. First, do a site analysis. Test your soil. Record wind speed and direction. Record sun and shade patterns. Record the pattern of water movement. Note the existing slope of the land. Identify and learn the characteristics of existing plants.

This information will influence how you select and place plants. It also will guide you into thinking carefully about where to place the patio, the possible need for a windbreak, and the benefits of soil modification and land reshaping.

Historically, up to 50 percent of the water used at a residential site is applied to the landscape. A significant part of this water is intended for turf. Consequently, the success of your conservation plan will depend on the characteristics of the grasses in your lawn and the efficiency of your irrigation. (DJ)

## SHADE

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growing season, most perennials only flower for a few weeks. When not in bloom, though, their foliage still plays an important part in the shade garden, adding variety in form and texture as well as in shades of green. Flowers often are followed by interesting seed pods or bright berries. Some perennials, such as hosta lilies, usually are planted for their attractive leaves rather than for their flowers, which in most species are not particularly colorful or showy. Ferns don't bloom at all, but there's hardly a shady garden that wouldn't be enhanced by their grace and beauty.

In dense shade and problem areas where it's hard to tend plants, there are several perennial groundcovers that

can be used effectively. Most evergreen groundcovers like Japanese spurge and periwinkle require the insulation of a good snow cover to carry them through the winter. Other groundcovers such as wild violets, lilies of the valley, goutweed and spotted deadnettle are more durable. Many of these tough groundcovers can survive in a root-filled location that would be impossible for annuals or other perennials.

### Herbs and Vegetables

Some herbs, particularly those in the mint family, seem to do quite well in a shaded area, though they prefer light rather than heavy shade. Their requirements also include adequate moisture and relatively fertile soil, which rules out locations where tree root



*Annuals add seasonal color.*

competition would be a problem.

Vegetables all do best in bright sunlight from early morning to nightfall, but a few of the leafier types can be tried in light or partial shade. These include plants grown for greens rather than for fruits or roots. Vegetables such as leaf lettuce, spinach, Swiss chard, kale, mustard greens and beet greens will be thinner leaved and less robust when grown in light shade rather than full sunlight, but they will be tasty even

though their growth is not luxurious.

A final suggestion for making use of the shady garden concerns putting houseplants out for the summer. Nearly all indoor foliage plants will benefit from outdoor growing conditions if they are protected from the hot midday sun, in such locations as a spot under a tree or on the north side of a house. Pots may be sunk into the soil to conserve moisture, but with frequent watering, they also could be set right on the soil surface, an ideal way to make use of those shade areas that are compacted with tree roots.

No doubt you'll choose a combination of different types of plants to create the effects you desire in the shady areas of your yard. Use your imagination and create something others will envy.