



Planting Guide for Trees & Shrubs

One of the best planting guidelines you can follow is to put the right plant in the right place. Bear in mind sun, wind, and frost exposure as well as how the soil drains. Does it remain wet for a long time after rain or tend to collect water in the spot? Many garden plants prefer well-drained soils and dislike sitting in water or constantly moist soils. See the **Notes** at the end of this handout to determine if your soil has little or no drainage. Consider also the mature size of the plant versus where you are planning on putting it. Will it outgrow the area? Can you keep it pruned to a desirable size? Ask whether the plant will do well given the sun exposure in that area. If you have a lot of trees around your house, sun exposures can be variable not only from hour to hour but also from season to season. Plotting the sun exposures in planting areas will help you choose the right plants for those areas.

IMPORTANT NOTE: You will see recommendations in both methods outlined to plant trees and shrubs so that the rootball is slightly above or level with the surrounding soil. This is to prevent the stem or collar rots that can occur when a woody plant is planted too deep and which, though it seems like a minor sin, can actually be responsible for killing the plant. With this in mind, always examine the plant first to make sure you know where the "trunk flare" is. This is the part of the woody plant where the trunk meets the roots and there is always a slight flare there on younger plants which gets wider with age. Container-grown plants may have a buried trunk flare due to addition of mulch to pots and you may need to remove excess soil and roots using a sharp knife or pruners in order to expose the trunk flare and plant the plant at the correct depth. Don't be afraid to prune those roots if the trunk flare is buried since it is more important that the trunk flare is above ground.

Method 1: Preparing the Entire Bed (IDEAL)

When possible, the best way to prepare the soil for planting is to amend the entire plant bed. This is accomplished as follows:

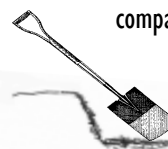
1. Kill or remove weeds and/or existing lawn by either smothering them (mulch, tarps, or a combo) or using an herbicide.
2. Till the entire area, ideally to 12" deep, but 8-10" is sufficient.
3. Layer onto the soil 2" of soil amendment such as Permatil (ideal but expensive; or similar sized porous stone/aggregate) or pine bark soil conditioner or a combination of the two (such as Daddy Pete's Planting Mix). Optionally, layer on 1-2" of compost for enhanced nutrient content and beneficial microbial activity. Till these in first. If the drainage is very poor in the area, it is best to raise the bed by adding an additional 6-8" of compost/topsoil blend and then till this blend into the planting bed.
4. Use a rake to smooth out uneven areas. Avoid excess walking in the bed which will compact the soil. (You can place a board or flattened cardboard boxes down to walk on.)
5. Dig a hole the size of the rootball and gently loosen any compacted roots (Except on dogwood and azalea; if these are compacted, make 3-4 cuts into the roots at the base of the rootball but avoid further damage to roots). The top of the rootball should be slightly higher than the natural ground level to allow for settling. Gently firm the soil into place making sure there are no air pockets. Finish by mulching with a 2-4" layer of the mulch of your choice making sure the mulch does not rest against trunks or stems.

Method 2: Preparing an Individual Planting Hole

1. Locate an appropriate place to plant your tree or shrub. Are you putting the right plant in the right spot? (see above as well as notes on determining soil drainage at the end of this handout)



2. Dig a hole at least 2 to 3 times the width of the rootball but no deeper than the height of the rootball. The wider the hole, the better so that excess water can disperse sideways (4 to 5 times the width of the rootball is not too wide). Break up all sides and bottom of the planting hole so there are no slick or compacted surfaces.

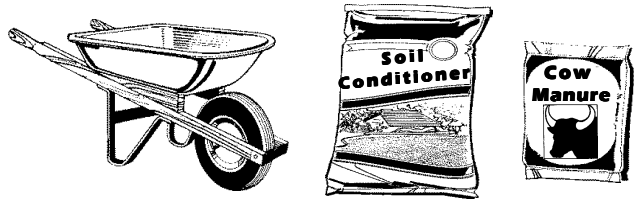


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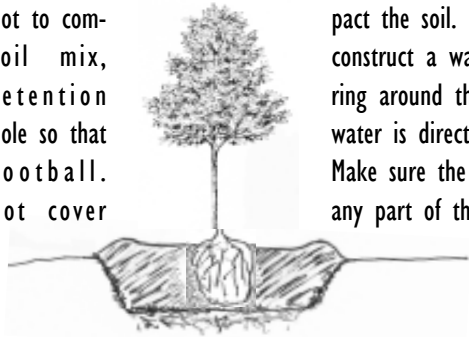
3. Take the tree out of the container and position it in the hole. The top of the rootball should be slightly higher than the natural ground level to allow for settling. In poorly drained soils, plant even higher placing as much as 20-50% of the rootball standing above the soil line. Loosen any large roots that may be girdling the rootball or roots that are densely grown into the shape of the container (or are circling the container). *Avoid doing this to azaleas and dogwoods.*



4. To improve drainage in clay soils, get a wheel-barrow or other container, and create a mix of 50% soil dug from the hole, 40% Permatil or soil conditioner, and 10% composted cow manure or mushroom compost. Sandy soils require more organic matter such as composted manure or peat moss in order to improve water retention and little or no soil conditioner.



5. Fill the hole with the amended soil up to the sides of the rootball and gently firm the soil in place being careful not to compact the soil. With extra soil mix, construct a water retention hole so that water is directed to the rootball. Make sure the soil does not cover any part of the trunk.



6. Put down a 2-3" layer of mulch such as pine straw, pine bark, or composted leaves, etc. over the planting area being careful not to put mulch directly against the trunk. Water the plant in thoroughly with a solution of root stimulator and water.



Notes:

- **Supplemental water is VITAL for new plantings.** Generally, additional water will be required once a week if there has been less than one inch of rain that week. We recommend a rain gauge to help determine exactly how much rain your garden is receiving. When planting in the spring and summer, you will probably need to water plants one to two times a week depending on how dry and hot it is and after checking the soil to make sure water is needed. When planting in the fall, water plants about once a week depending on the amount of rain received and weather conditions. Always check the soil before watering to make sure that that watering is needed. If the soil is damp going to dry or dry when you put your finger in it to the second knuckle (or dig that deep with a trowel), then it is time to water. A new rootball can be dry while the surrounding soil is relatively moist. Mulch can dry out and make the ground appear dry-looking when it is actually quite damp a few inches below the surface. In general, hold off on watering in the winter. Occasionally, evergreens, especially ones planted in the previous year, will require some water in winter during dry spells. Water plants the following spring and summer during dry periods.
- **Top-heavy trees such as flowering pear or Southern magnolia may need to be staked** for support during the first year or so in the ground. This will help keep roots from being shifted by a heavy canopy as well as keep the tree standing straight. Don't stake too tight. Trees actually need to be able to move somewhat in the wind in order to strengthen the trunk. Tree staking kits are available at the nursery. Make sure that the straps that you use to attach to the tree are wide and non-abrasive.
- **To determine if your soil is very poorly drained,** do the following test. Dig a hole as deep as your planting hole and fill with water. If the soil drains at a rate of less than one inch per hour consider installing drainage tiles, choosing another location to plant, or building up the soil and planting in a berm or raised beds. You can use a ruler in the drainage hole to gauge drainage.
- Automatic sprinklers are good for lawns but usually do not water trees and shrubbery well or may over water it. It's much better to water deeply but less often than to water sparingly but daily. Deep watering encourages deep rooting. Drip systems are effective and efficient. See our free handout on *Watering Your Garden* for more details.
- **Soil tests are helpful for evaluating your soil.** Soil pH should generally range from 5.5-6.5. For acid-loving plants such as azalea, camellia, mountain laurel, rhododendron, and blueberry the target pH is 5. For roses the target pH is 6.5. Percent of base saturation (BS%) should be between 70-90% to indicate good soil fertility. Wet and poor smelling soils that are grayish in color usually have insufficient oxygen and should be amended with soil conditioner and built up with fresh topsoil using Method 1 on the previous page. For more details on soil tests, see our free handout on *How to Read Your Soil Test Report*.