

Precautions in Planting Young Tree and Shrub Seedlings

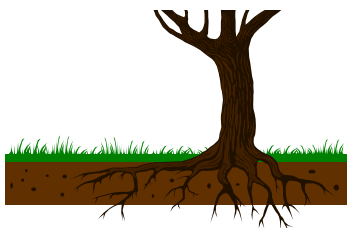
Even if you have received plants free, they still represent a substantial investment because of the time and effort you have given in their planting and care. For that reason, you should make sure you do everything you possibly can to have the plants survive on the planting site.

Why plantings fail. Lack of moisture is the main reason a seedling may not survive after it is set out. The roots of the young tree or shrub take in the moisture that allows it to carry on its life processes. The shoots or aerial parts give off the moisture in a process known as transpiration. If the moisture transpired exceeds the moisture absorbed by the root system, then the plant wilts and dies. There are various things that may cause this imbalance of moisture between root and shoot.

Only the root tips are equipped to take up the water that is “spiked” with nutrients. When a tree grows in one position from seed, it develops more and more shoot tissue in relation to feeder roots. Sometimes, therefore, when a tree is transplanted to the field it has insufficient feeder roots to supply the tree or shrub with the moisture it requires. This is why root pruning and transplanting in the nursery are often necessary in the production of hardy stock.

Can we do anything about the tops that will make them transpire less moisture? The foliage can sometimes be sprayed with a special wax-like solution which tends to retard transpiration. Pruning the tops can also be helpful. This can be done very readily with hardwoods without affecting the ultimate shape of the tree. In the case of conifers, however, only lower branches may be safely removed from them. However, anything we can do to make either the root system more efficient or the top less likely to give off moisture, the better things are. By shading the planted tree, we decrease the amount of wind and heat in its vicinity, and thus retard transpiration.

Keep the roots moist. When the plants arrive from the nursery, they are packed in moist moss. As long as the roots are not allowed to dry out, they will do their job when the trees are planted. However, once a rootlet—and it is very fine—has dried out, it cannot be re-moistened and brought back to life.



Feeder roots are often killed without a person realizing it. If you are not able to plant the material as soon as it arrives from the nursery, make arrangements to have them “heeled in” on the north side of some building or object that will provide shade. “Heeling in” merely means digging a trench and burying the roots in moist soil. It is important that the plants be loosened from their bundles before being put in the trench. If they are in the trench for any length of time, it may be necessary to water them periodically.

Keep the trees in buckets of muddy water or in boxes of moist moss, whether you plant by hand or by machine. The trees and shrubs should be planted at approximately the same depth as they grew in the nursery. Holes must be deep enough to accommodate the outspread roots easily. Folded roots may result in their improper development. Strangulation of a tree by its own roots may even happen! This is particularly important in heavy soils. Such soils may also cut off the supply of air to tree roots if compacted. Some compaction, of course, is necessary. Otherwise air pocket's form around the roots and cause them to dry out. These pockets of air may be eliminated by firming the soil well around each tree after it has been set in the ground.

Right tree in the right place. Another way in which to make reasonably sure that your trees will not fail on the planting site is to choose the right kind of a tree for the area you wish to plant. Trees, over a long period of time, have become adapted to different site condition. The pines, which are hardy pioneer species, may grow in sites exposed to sun and wind without suffering undue harm. They usually develop a strong tap root early in life. This quickly reaches the deeper moist layers of a light, well-drained soil.



Pines are not usually “happy” in poorly drained soils. The red pine “malady” is a good example of how pine responds to these conditions in this State. The spruces, on the other hand, are trees that are better adapted to moist, shallow soils. Spruce, along with fir and hemlock, occurs naturally in the shade of other trees. Indeed, the shade is beneficial to the establishment of spruce, in that it keeps the surface layers of the soil moist. This is where its feeder roots are. Larch is a species that is something like pine, although it requires a richer soil. But it, too, requires adequate rooting room and good drainage.

Your job is still not finished. The tree or shrub is not the only thing occupying the site. It has competitors for nutrients and moisture as well as sunlight, in the grasses and weeds that are “rubbing shoulders” with it. These other plants have an advantage in that they are already well established in “comfortable” surroundings.

Some weeds not serious. A light growth of grass and goldenrod is not serious. The plants still obtain enough light, and the root competition from these plants is not severe. However, the cutting or spraying of these competitive weeds may be necessary in order to prevent smothering by this vegetation at the end of the growing season, when snow causes it to “mat down.” The weed growth, however, can also provide beneficial shade from the scorching summer sun. Sometimes, where there is a dense grass sod, the grass has to be removed in order to give the tree or shrub a chance to establish itself. How well you keep the weeds and brush down depends on the objective.