

# HELPING NEWLY PLANTED TREES SURVIVE A DROUGHT, WITH ALMOST NO WATERING

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The summer of 2022 was a thirsty time for trees; we had only about half our average amount of rainfall for the months of July and August. Additionally, both months were above average for temperature; in fact, August was the hottest recorded since 1895. Lastly, there were a number of low humidity days with strong winds... all of these factors... heat, wind and low-humidity contribute to trees needing more water. Unfortunately, because of the low rainfall, tree roots could not find it in the soil. Besides supplementary watering what can be done to help newly planted trees survive this type of weather with minimal watering?

Plant during favorable weather. Newly planted trees do best when they are greeted with weather that doesn't overwhelm them with thirst. Trees demand for water increases when they are actively growing, there is sunny and warm weather; low humidity and wind. June, July and August typically have most of these factors in New Jersey while September and October would rank in 2nd place. Thus, the 1st choice for best weather to plant would be November and December. The next favorable time would be when the ground thaws enough to dig... this maybe all winter or you may have to wait until March and April. Important note. whenever you plant, do not expose the tree's roots to temperatures below 32 degrees. Tree trunks and branches can take freezing weather but the roots cannot. While waiting to plant keep the roots well insulated and moist.

Examine Your Tree's Health Closely before Planting How do you know that a balled and burlapped tree (tree that is field grown and then dug up and wrapped with burlap) is healthy when it was delivered to you in a dormant (after it has dropped its leaves) condition? The Davey tree company advises, "Live branches will bend before they break, whereas dead branches will snap easily. Live branches will have green in the inner layers while dead branches will be dry and brown or gray. Scrap a very small section of outer bark off (no bigger than a dime size) you should see green inner bark." For a video showing this procedure go to <https://www.starkbros.com/growing-guide/article/how-to-do-a-scratch-test> .

Also, check to see if the root ball is moist. To do so unbend a coat hanger and see if you can gently but easily push it into the root ball. If you cannot, the soil is dry in the ball and the roots may be dead.

What about bare-root trees (trees delivered to you in a dormant state with no soil around the roots). They should arrive to you packed in moist material (moss or newspaper that is wet or hydro-gel). The roots should not smell moldy. Do the branch bending and scrapping suggested for burlapped trees. The roots should be supple and plump.

What about container grown trees that have gone dormant? Check the tops

## HELPING NEWLY PLANTED TREES SURVIVE A DROUGHT, WITH ALMOST NO WATERING

*Continued from page 83*

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of the trees as you would a balled and burlapped tree. To view the roots ... gently remove the root ball from the container. They should be plump and whitish or a shade of brown. However, they should not be black, which can indicate rot. Also, they should be pliable.

Site Preparation. Anything that can be done to encourage the tree's root system to grow larger should be. Also, improving the water holding capacity of the soil is needed. To do both I like to remove the competition of sod and weed roots by removing both in a 6-foot diameter circle. Once you have bare soil I then loosen the ground down to one foot with a fork, shovel or backhoe. Try to break the soil up into pea sized pieces if possible. Amendments can also be added to the soil at this time. For heavier soils I prefer pine bark fines. They help to provide aeration in the soil and do not decompose quickly; providing years of benefits. Soils that are sandy should use materials that help to retain moisture... such as peat moss and compost. Lastly, once the tree is planted a 3 to 4-inch layer of coarse mulch (woodchips or bark) will help to keep moisture in the soil. Coarser mulch has less of a tendency to repel water than more finely ground materials. Keep mulch back from trunk about 3 inches.

Plant the smallest sized tree possible. Roots supply the leaves with the water they need to stay turgid and carry out photosynthesis. Besides being healthy there should be a sufficient number or mass of roots. In general, larger sized trees in containers, those that have been balled and burlapped often do not have root balls large enough to sustain the tree without supplemental watering. If you are not going to water trees after planting, buy as small a sized tree as you can. They will have more roots per shoot than larger caliper trees.

Smaller caliper trees, however, will have to be protected from damage by deer and other herbivores. They will also have to be protected from mechanical damage; soccer balls; bicycles; lawn mowers; and string trimmers. In Union County we make enclosures around the smaller trees with 4 sturdy stakes and 7-foot-high, heavy duty deer fence in a 6-foot circle. The fencing is 'zipped tied' to the stakes to prevent deer from lifting them up.

Burlapped plant bare root if possible or smaller caliper balled and burlapped trees. The soil in container grown trees holds very little moisture. It is mainly sand and organic matter and contains no clay/mineral soil. Clay soil can hold a lot of moisture. Also, the root ball size with container grown trees is very small compared to the top of the tree. Nurseries compensate for the well-drained soil and imbalance of top to roots by frequent watering (they may water every day in hot weather). Thus, planting a container grown tree into an environment where watering is up to nature can be risky.

The second choice for trees to plant would be balled and burlapped trees. B & B trees, as they are known, come shipped with a ball of mineral soil that contains some of the tree's roots. Many of the trees roots are lost when the tree is dug up at the nursery. However, what remains is kept in a nice ball of mineral soil that will stay moister then soil in a container grown tree.

1st Choice for not to be watered is a bare- root tree. A bare-root tree will have more roots than a similar caliper balled and burlapped tree (is this really true?). Also, it will not be surrounded by the porous potting soil of a container grown tree. Lastly, it will be surrounded by mineral soil, (if sandy) add organic matter to hold more moisture, or plant trees adapted to dry conditions (Hackberry).

Watering... if you can, water when you first plant. Pull the mulch back. make a saucer with the soil, (saucer should be size of root ball) and fill the saucer and wait until all the water drains. Do this 3 times - keeping an eye that the water does not leak through the sides of the saucer. If possible, continue to check the soil for moisture throughout the summer. Go 3 inches or so away from the trunk and feel the soil 3 inches down in the ground. If it feels moist, no water is needed. If dry, water using the method described above.

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