

PLANTING RECOMMENDATIONS



The day of planting is the most important day for your new grove. At TreeSource, we work for many months to insure the best quality trees leave our nursery. Unfortunately, the trees can be damaged in just a few seconds on the day of planting and we would like to help you prevent this.

If you use a planting crew as is illustrated below, you will need a field forklift, tractor(s), bin trailer(s), and at least 4 workers to support the crew. Double check the air in your trailer tires, because the trees are heavy. We have shown “shovel planting,” the most common method of planting. When accomplished by an expert crew, it is common for a tree to be planted every 30 seconds! This means you must start spreading the trees in the pre-marked field at least 2 hours before the crew arrives. Remember that ball & burlap trees dry out quickly, so don't start the day before planting. **Call us at (559) 592-2304 if you need more information.**

1 The trees arrive in the bins that you provided us. A good field forklift is essential to support the planting. We ask that you deliver the bins to us 7-10 days prior to your day of planting. Early morning deliveries are the norm and we don't deliver on Sundays.



2 A tractor driver, a tree handler that rides in the trailer, and 2 walkers are required to spread trees. They can do 2 rows at a time. Make sure they don't drop the trees! This photo shows how to properly place them to avoid damaging the root system. If you want to spread trees faster, add more equipment and another 4-person crew.



3 Your field should be weed free and recently tilled. Lay out the hose and install the sprinklers in advance. Pre-irrigation may be required 2 days prior to planting and the trees must be watered in immediately after planting. The tree can be laid on its side or as indicated.



4 When placing trees, allow room for digging the hole. Note the drinking straw that marks the planting location. Marking the field is done in advance of the day of planting, is commonly done by the planting crew, and is included in their contracted price for the planting.



5 The soil needs to be moist but not wet. Too wet and the soil may stick to the shovel, too dry and it may be too hard or the hole will cave in as it is dug. Your planting day could turn into a disaster if the soil is not properly prepared.



6 Make sure the crew cuts the twine at the top of the burlap. The burlap is NOT removed since it does not inhibit root growth and will decompose quickly. A grape knife works best and is also used to cut off the plastic container of a potted tree.



7 For B & B trees, the top of the rootball should be 2 inches below ground level. Adobe and hardpan soils are tough to dig, so make sure the planters are digging the hole deep enough. For potted trees, plant at ground level to insure the soil mix has direct access to irrigations.



8 After the tree is in the hole, soil is piled over the rootball. This must occur BEFORE the worker steps on it. If he steps on the rootball before the soil, the hole is too shallow and he's stomping on the ball to make it fit the hole. This breaks off the roots and can delay the tree's growth. Watch this carefully during the entire day of planting!



9 Prior to packing in the tree with his feet, the worker's shovel should be used to tamp the tree in. He shoves the blade into the area between the rootball and the side of the hole (not shown). It requires about three well-placed thrusts, which reduces air gaps and helps settle the tree. This step is often ignored, and it is up to you to decide if you want to insure they do it. **NOW WATER THE TREES IN!**



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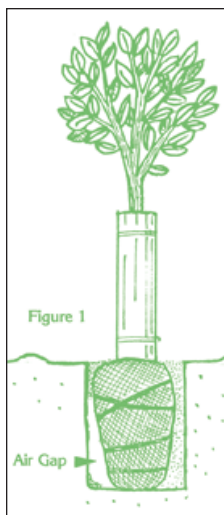
After planting a new citrus tree, the goal is to help the tree put out as much new growth as possible in the first season. Below we have listed some common challenges that a grower may encounter in the first years of a young tree's life. A young tree needs as much attention as you can afford to give it. The payoff for your efforts will be a healthier tree and a shorter wait for the first production of fruit.

1. OVER IRRIGATION

Over irrigation is a common problem. Small trees need about five gallons of water per week if planted in March-April. You should gradually increase the irrigation to 10-12 gallons per week in the heat of the summer. You need to realize that a young tree has less than 1% of the leaf surface of a mature tree and uses less moisture. Check the moisture level of the rootball as well as the soil around it before you schedule irrigations. One way to discover the perfect time to irrigate a young citrus tree is to actually let the tree get into a moisture stress situation. This would be done about six to eight weeks after planting when the tree has finished its first flush of new growth. If you hold off the water until the tree shows wilt in the morning, the tree is showing you it is ready for its next irrigation. The water must be put on that day or you might do more hurt than good. A means of fine-tuning this method is by placing a tensiometer by a representative tree with the ceramic cup about six inches deep, right next to the rootball. When the trees are in the morning wilt, check the tensiometer reading. The next time you have to irrigate, turn the water on when the tensiometer reading approaches the level you noted when the morning wilt occurred.

2. AIR GAPS AROUND THE ROOTBALL

Air gaps around the rootball inhibit root development and can create dry rootballs even though the surrounding soil may be wet. Even the best planting job can leave behind air gaps that irrigation water can't dissolve (see figure 1). A means to check for air gaps is to wait until the trees have settled in, say after the second irrigation. Then randomly walk through your field with a soil probe and probe right next to the rootball on a number of trees. If the probe goes in too easily, you have air gaps and it may be necessary to go back over the whole field using a four-foot long, 3/4-inch bar to collapse the gaps...kind of like tamping in a fence post. After you've finished, irrigate to insure that soil washes into the collapsed air gap and you may even need to scoop some soil over the rootball after the irrigation to insure it's well covered.



3. COMMON PEST PROBLEMS

Common pest problems such as citrus thrips, snails, or worms can slow a young tree's growth. It is important to work with a skilled PCA to insure your treatments are timed properly and don't create long-term problems with pesticide efficacy.

4. DAMAGED ROOT SYSTEMS

Damaged root systems can occur when trees are handled improperly or the rootball dries out. TreeSource uses bulk bins to minimize the handling of the trees. Any rough handling by planting crews may cause several fibrous roots to break off from the main root system. The tree is forced to re-grow the damaged roots and the tree's development is delayed. A dry rootball kills fibrous roots and can damage the tree's entire root system, so make sure you water them daily if you don't plant the same day of tree pick-up.

5. pH PROBLEMS

Significant pH issues are best dealt with prior to planting. Trifoliolate rootstock is the most sensitive of the rootstocks to a pH in excess of 7.0. If a high pH was not corrected prior to planting, a young tree may turn yellow because the soil is tying up key micronutrients that the young tree needs. Correcting the problem after planting is difficult and is best addressed with your PCA.

6. ANTS

Ants are sneaky and can cause a grower some confusion. They commonly operate in the late evening or at night and tend to go unnoticed. They create gummy at the leaf axils that looks similar to a disease problem. The affected trees are slower to develop and are often confused with a bad tree from the nursery. Using a good ant pesticide like Lorsban or Clinch (for fire ants only) normally solves the problem. Check with your PCA.

7. RABBITS

Rabbits will chew on all citrus varieties but prefer some more than others. They can kill a tree by eating every new flush the tree puts out. A chicken wire fence around the orchard may be the best solution for severe problems. Repellents work, but need to be retreated frequently since any new growth won't be protected. Rabbit damage looks like someone took a pair of hand shears to the small branches of a baby tree and you can often find the prunings and rabbit droppings on the ground. The problem is most severe in the Fall when other food sources aren't as available.

8. NUTRITION

Nutrition doesn't really qualify as a "challenge" but applying improper amounts can be. A baby citrus tree will not use more than 1/8th of a unit of nitrogen in its first year of life. Zinc and manganese are also necessary and are best applied through a foliar spray. A common foliar spray for young citrus trees is 10 pounds of low biuret urea with some zinc and manganese (the rates for these micronutrients will depend on what source you are using) in 100 gallons of water. Baby trees also need fertilizer applied to the root system. A complete fertilizer, such as 8-8-8 liquid mix for fertigation or 15-15-15 granular are good choices. Wait until six weeks after planting before applying these fertilizers and then put them on about every six weeks until September 1st. Check with your PCA.

9. TREE WRAPS

Tree wraps are used on young trees to protect the trunk from sun burning, but they have other uses as well. A "foam" wrap helps to protect the tree in the winter months, inhibits varmint damage to the trunk, protects from herbicide overspray, and moderates temperatures the tree experiences. Wraps can also harbor snails, cinch bugs, ants, and if they are not removed at the proper time, can actually create an environment for wood rotting organisms. Wraps are a good thing, but they need to be checked throughout the first two years of the tree's life to make sure that they do not become a problem. Take the tree wraps off when the skirt of the tree is touching the ground and avoid tying them with wire. If insect problems are serious, take off the wrap and paint the trunk white.