Landscape as well as forest trees are susceptible to a variety of forest pests. Most recently this has included a new pest, the crypt gall wasp. If you take steps to reduce drought and nutrient stress in oaks that are susceptible to pests you can give your landscape trees a higher chance of survival.

To avoid drought stress, an established tree needs about a $\frac{1}{2}$ – 1” of water per week. To supplement rainfall amounts, one method of ensuring your trees get sufficient water is to use a soaker hose. This is a type of hose that has tiny pores over its entire length and distributes water at a rate no faster than the ground can absorb. Soaker hoses tend to be one of the most efficient ways to water plants because you don’t lose water to runoff or evaporation. The slow flow of water will ensure that water is soaking down to the roots. Note that when using a soaker hose it is best to use a pressure regulator to keep your hose from breaking or spraying. A regulator that can keep your outdoor faucet at 10 or 12 psi would be ideal.

The root system of a tree on average will be in the upper 12” – 18” of the soil, and extend out past the drip line, or edge of the canopy. To ensure you provide water to the vast root system, place your soaker hose approximately at the halfway point of the canopy, and extend out past the drip line. DO NOT water right next to the trunk of the tree as doing this could cause the tree to rot and have a small root system that will create less stability. Soils should receive a deep soak (penetrating to a depth of at least 6”) at least 3 times a month from April through September. The amount of time it will take to soak down to 6” can vary greatly depending on the type of soil found near the tree.
Run your soaker hose for about 30 minutes and give the water several hours to soak in. Check the ground by creating a small wedge with a shovel and see how far down the water has gone. You can simply touch the soil with your finger to see if it is moist. Based on what you see or feel you can estimate how much time will be needed. A good rule of thumb is to measure the tree diameter and multiply that by 5 to get your watering time in minutes. A 20 inch diameter tree multiplied by 5 will equal 100 minutes of watering, or a little over an hour and half. Even with this formula always check to make sure you are getting enough water to the roots of the tree, and adjust accordingly until you find the perfect time.

To help maintain this moisture in the ground you can put mulch around the tree, and over your soaker hose. This will keep the water from evaporating quickly. In addition, the mulch will prevent weeds and grass growing around your tree. Grass is not your tree’s best friend, and will take away some of the water you are putting into the soil. It’s best to put a layer of mulch about 2” – 4” thick that extends out to the drip line. DO NOT put mulch at the base of the tree as this could damage it.

To avoid nutrient stress you can improve the quality of the soil around your tree with fertilizer. A slow release fertilizer works best for oaks but try to avoid fertilizers with high salt content as this will increase the drought stress. A formula that is high in nitrogen and lower in phosphorus and potassium (such as 5-3-3, 6-2-0, or 6-3-2) will work. It is best to go conservative on the amount of fertilizer you are using for your tree, and only apply fertilizer after the soil has gotten rainfall or been watered. Adding fertilizer with no water will have very little impact, and could potentially injure the tree further.

Another potential consideration is soil compaction. If the soil is compacted, there is not enough water, oxygen, and nutrients getting to the roots of your tree. To reduce compaction, aerate the soil by putting small holes into it.

Lastly, when in doubt call an expert. Look for a local arborist or horticulturist that will come out to look at your tree and take soil samples to determine what your tree needs.