



## Care and Feeding of Pines in Denton County

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All southern pines grow in the sandier soils of Denton County. The two imported pines *Eldarica* pines from Afghanistan and black pines from Japan grow in all of our soils in Denton County and in fact are more drought and heat hardy than our southern pines. Because our southern pines normally grow in the higher rainfall belt of East Texas and the southeastern United States they need extra watering, mulching, fertilizing, and protection from borers when grown here. These are all important practices and half measures are unlikely to succeed.

If the ground is sloped or the soil compacted you need to take extra time to let your irrigation water soak into the ground when you water. You want the water to soak down to a depth of one to two feet. In order to do this you need to apply a one and one-half to two inches of water in a single application. When you water this deep you are encouraging deeper rooting.

In order to know how long to run your sprinklers to apply one and one-half to two inches of water you will need to place five coffee cans in an area to be watered, turn the water on and time how long it takes to fill the cans up with one and one-half to two inches of water. Some cans will have one and one-half inches of water and some cans will have two inches of water. This is the irrigation run time. Apply this amount each time you water spring, summer, fall, or winter. The difference in the seasons is in the frequency of irrigation. In the summer, water every ten days in the absence of rain. In the winter, water every month in the absence of rain.

You cannot count the irrigation run time if the irrigation water runs off the site. You can only count the time the water is soaking down into the soil in the tree rooting area. The rooting area you need to irrigate is an area that extends from the tree trunk in all directions as far as the tree is tall. If the water begins to run off before your application is complete, turn the water off or move it to another spot and let the water

soak into the ground. Then after the soil has had a chance to absorb the irrigation water turn the irrigation system back on and finish the application run time. This is called intermittent irrigation. It simulates a “slow soaker” which every one knows is the best kind of precipitation.

One thing that would help immensely with infiltration of irrigation and rainfall too, and also help conserve moisture and extend your watering interval is mulching. Wood chips of any species will do but the best is pine straw. A bed of pine needles recreates the natural ground conditions of a pine forest floor. This is the soil environment most suitable for pine trees. Perhaps the most important thing you can do for your pines is to leave the pine needles under the trees. I cannot stress the importance of this too much. If you can import pine needles from East Texas I would recommend you do so. By all means keep and use all the needles you already have on site. You would like to maintain a layer of pine needles four to six inches deep over the entire rooting area around all your pines. The pine needles will increase water infiltration, reduce soil water evaporation, cool the roots in the summer and warm them in the winter. If you cannot find pine straw, use a three inch layer of wood chips.

The real killer of pines in our area is borers. These insects enter weak trees from April through September. Borers that enter trees eat all fall, winter, and spring, chewing the wood and destroying the conductive tissues that transport water, minerals and sap within the tree system. The longer they are in the tree, the bigger they get, the more they eat. The best treatment for borers is an imidacloprid soil drench once a year, preferably in February or March. Merit® and Bayer Advanced® Tree and Shrub Insect Control are commercial products containing imidacloprid labeled for this use.

Under stress conditions, trees lose their oldest leaves first. These are the leaves farthest from the shoot tip. Ideally, pines retain up to three years worth of leaves. Two years worth of leaves is normal. If your trees are retaining only the current season’s leaves they are in a very low vigor state and are highly susceptible to borer attack.

Pines can benefit from fertilizer applications. Broadcast five pounds of 15-5-10 or equivalent fertilizer per 1,000 square feet in mid-February, mid-April, and mid-September each year. Do not fertilize pines without irrigation. Fertilizers cause salt burn if the trees are allowed to stress for moisture within a month of the application.

In good weather, pines can do well without a lot of care. The better your trees enter periods of stress, however the better they will fare so good care is beneficial even in good weather. Pines are not usually long-lived but the treatments prescribed here can extend their useful service by many years under normal conditions.

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