



Forestry Note:

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Growing Loblolly Pines from Seed in Pots

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Loblolly pines (*Pinus taeda*) is one of the major commercially grown timber species in the southern United States. In Oklahoma it is native to the extreme southeastern counties but has been widely planted throughout the eastern two thirds of state in well drained acidic soils. At our Forest Regeneration Center Oklahoma Forestry Services grows loblolly pines in fields (for use as bare root stock) and in containers. Growing loblolly pines outside without the use of a greenhouse is within the abilities of most individuals provided proper handling and care is taken.

Seed Collection, Storage and Preparation

Seed is collected in the fall when the cones are beginning to open. This seed should then be stored in freezers. Oklahoma Forestry Services recommends removing the seed from the freezer at least 60 to 90 days before the average date of the last spring freeze. For example, the last spring freeze in central Oklahoma averages mid April. Therefore seeds would be removed from storage near the end of January.



Allow the seed to come to room temperature. Soak the seed for 24 hours in water in a zip top polyethylene bag. Drain the seed completely, but do not allow the surface to dry more than superficially. Place the seed back in the polyethylene bag, seal and leave for 60 to 90 days in a refrigerator at about 37 degrees F. Do not allow it to freeze. After 60 to 90 days (stratification period) pull from the refrigerator.

Planting

Prepare the pots to be used by filling with a well-drained, acidic potting mix. Conifers need well-drained soils with an acid media such as can be obtained with pine bark, peat moss and sand. The ideal pH for soil used to grow loblolly pine is between 4.5 and 6.0. Premixed soils with these characteristics can be obtained from local nurseries, hardware stores, or home improvement centers.

Sow 2 or 3 seeds in each pot or cell. Press the seed firmly into the soil surface but just barely cover with no more than ¼ inch of soil. Water until the soil is thoroughly saturated and repeat as needed.

Care

Soil moisture is critical in growing any plant. Ideally one wants to keep the soil moist at all times. Do not allow the surface of the soil to completely dry out but also do not let it become super-saturated for long periods of time. Keep the pots in full sun protect them from wind and the traffic of people and animals. If the pots are exposed to unusually hot, sunny and windy conditions you may have to water more than once a day. Once the seedlings start growing rapidly you will need to thoroughly water once a day. Be sure to remove weeds as necessary.

Fertilization is important to get seedlings large enough to harden –off and survive through the winter. Many potting mixes come with fertilizer already added. If you have not used such a mix, a slow release fertilizer can be mixed with the soil prior to planting. In any case, as the seedlings get bigger they will need supplemental fertilizer. Follow the label directions for adding fertilizer to the soil. Foliar fertilizers and iron



may also be applied to the foliage to maintain a healthy plant. As with other types of fertilizer, follow the directions.

If the seedlings become yellow or chlorotic from using hard water (high pH) then one may want to apply chelated iron to the pots. Chelated iron which comes in a liquid form is the easiest for the young trees to use. Concentrated sulfuric acid may also be added to water with a proportioner to lower the pH of the water. As always follow the directions. Never use more than the recommended amount of fertilizer or chelated iron or lower the pH too much as burning of the foliage or death of the seedling may result. Do not fertilize the seedlings after August 15 or they may not be able to “harden off” before

a hard freeze and may be severely damaged by temperatures below 28 degrees F.

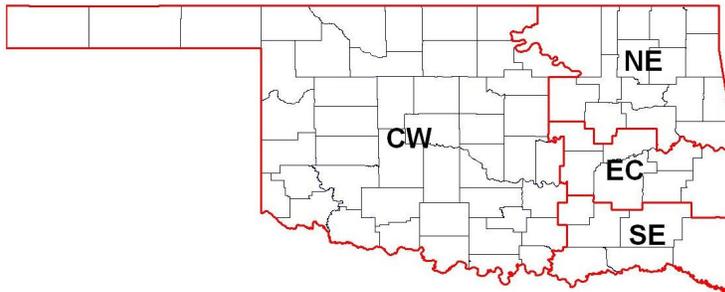
Removing from Pots and Planting

Monitor the weather closely in the fall and water the seedlings thoroughly the day before a hard freeze. This will help the seedlings become acclimated to the lower freezing temperatures. Once the seedlings are at least 8 to 10 inches tall and 5/32 inch in caliper at the soil surface they are large enough for repotting or permanent planting. **Do not allow the seedling roots to remain in the pots for too long. This will cause the plant to become “pot bound” and restrict further growth and development.**

When removing the seedling from the pots, care should be taken not to damage the root system. Plant the seedling one inch deeper than they were grown in the original pots making sure the hole is not too shallow. Once placed into the planting hole, make sure the soil is packed firmly around the roots removing all air pockets.

Congratulations on your successful planting!!!

If you have any further questions please feel free to contact your area office:



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