

GETTING THE MOST SEEDLINGS FROM A POUND OF SEED

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We all have particular ways of managing a nursery because most nurseries differ in some way. Maybe the temperature, lay of the land, or type of soil differ. Other things can also differ from nursery to nursery. It would be foolish for me to try to tell you how to run your nursery. However, I can tell you how we handle our nurseries in Georgia.

First of all, a good nursery site and drainage is necessary. Good soil management, good irrigation equipment, and an ample supply of water is also important. Soil sampling and fertilization is also an important factor in growing the best seedlings. We use the fumigation method to control root rot, nematodes, some grass and weed seed. We control other weed and grasses by chemicals and handweeding. We plant cover crops to build the soil and to supply organic matter. Care must be taken in all of the items, including the fertilizers and all of the herbicides. Following are some of the practices used in the Georgia nurseries.

All Loblolly seed are stratified 30 to 40 days before planting at a 35F to 38F degree temperature. The seed are saturated with water and the excess water drained off before putting in cold storage. The seed are sized to three sizes (small, medium, large) and each size is planted separately. Small and medium seed will produce as good a seedling as the large seed with the proper fertilization and irrigation. If seed are unsized the small seed will produce a small seedling that will be a cull at shipping season due to competition within the seedling bed.

Planting time will vary about two weeks. We begin planting around the first of April if temperatures are warm. We allow about two weeks for planting time. We plant for 30 shippable seedlings per square foot. We allow 30 percent mortality for all all causes after allowing for the germination count, unless germination is 70 percent or below. We can expect to ship around one-half of the number of seed per pound. EXAMPLE: Seed per pound, 15,000; we will ship an average of 7,000 seedlings. This has been our experience with Loblolly in the past years. Some years are better than others and its the same for seed as it varys from year to year.

At Page-Walker Nursery in southeast Georgia, we have been able to obtain pine straw for our mulch. We chop our straw with a silage cutter, this leaves the pine needles in three to four inch pieces which when spread on the beds with the old converted manure spreader requires almost no hand labor to straighten the mulch. At our Morgan Nursery in middle Georgia, we use the wood fibre mulch for mulching. This is applied with a Hydro Mulcher. Approximately 1,500 to 1,800 pounds per field acre is used.

After planting, the seedbeds are not allowed to dry out. If there is no rain, we irrigate one quarter inch in the morning and one quarter inch in the afternoon until germination is complete. As soon as germination is complete, we apply Captan at two and one-half pounds per acre as a precautionary measure for damping off. This is repeated in 10 days for three applications. Irrigation is done in the afternoon when the temperatures are high.

Red cedar seed is sown in October in the Georgia nurseries. This is to let the seed germinate naturally during the Winter months and take advantage of low temperature germination requirements. After sowing the seed, we cover them with a heavy mulch of unchopped pine straw from the current years straw. Light mulching of Red cedar has proven unsuccessful. After germination in the Spring, this mulch is removed to prevent damping off.

Sycamore has been another specie we have had problems with and seem to still have some, but we have found that Sycamore is much in reverse to Red cedar on the mulching. It requires a light mulch of unchopped pine straw. I think that light has something to do with the germination of these seed, as we have tried heavy and light mulch and the light mulch gets much better germination. Sycamore is planted the latter part of March. With the light mulch, it is very necessary to keep these seed wet by irrigation if enough rain is not obtained.

On the pine seedlings, mineral spirits is used to control the weeds. We start with 12 gallons per acre and increase to 20 gallons per acre by August. We spray in the early morning at 30 pounds pressure with 8002 tips using a three row boom with nozzles spaced 18 inches apart and about 16 to 18 inches above the beds.

Some of the things that can decrease the number of seedlings per pound of seed are: Unclean seed, improper stratification, molded seed (soil too cold for germination), damping off, mulch applied too thick, mulch applied too thin, improper irrigation, sun scald, wind damage, poor drainage, bed shoulder sluff off, mineral spirits injury (application too heavy), or application too small causing damage from hand weeding.

I have tried to bring out some of the more important things that can help get the maximum amount of seedlings per pound of seed. I am sure there are other things that can have influence on this as things differ from state to state. I have tried to cover some of the more important or basic things which I believe most of us Nurserymen have experienced.