COST REDUCTION IDEAS

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The theme of this panel is cost reduction ideas in the production of quality forest tree seedlings.

The old adage of "watch your pennies and the dollars will take care of themselves" holds true today, as well as it has in the past. One of the most important qualities in a nurseryman is to be able to anticipate what will be needed in the operation of his nursery and be ready for it when it comes. One can save much money by doing each job when it is needed rather than waiting too late and find himself buried in work before getting started. In short, an ounce of prevention is worth a pound of cure.

We installed permanent plots for inventory purposes for the first time this year. We plan to continue our regular method of inventory and compare this with the permanent plot method. Earl Belcher covered the permanent plot method of inventorying in the 1964 Nurserymen's Conference. A detail of his report is contained in the Proceedings of the Region 8 Nurserymen's Conference for 1964. Our usual procedure for inventory in the past has been to make one count 4 feet long on one drill out of each 200 linear foot of bed. The particular drill in which the count is made is randomized and then the distance or location within each 200 feet is randomized. It is hoped that the permanent plot method will prove as accurate as our previous method and if so, it will save us money in the over-all task of inventorying our seedlings.

Another method to help offset seedling production cost is to produce an alternate crop or cover crop that may be harvested and sold to produce revenue. Soybeans and corn are two crops that could be used for this purpose. In either case you can harvest the seed, leaving the balance of the plant to be turned under as an organic amendment to the soil. We use corn in Florida because there is a ready market near each nursery.

The subject of mulching was discussed yesterday, but I thought I would mention briefly that we have not yet found anything as good as straw or as economical. In 1962, we tried hydro-mulch using a pulp product manufactured by International Paper Company. Our results were highly unsatisfactory and we never pursued the idea any further. It appears that St. Regis Paper Company has perfected this idea much better than we did and used this method exclusively this year in their nursery at Lee, Florida. Also, we tried asphalt mulch in 1962 or 1963 with equally as bad results. When we applied the asphalt mulch heavy enough to prevent erosion then the seedlings could not come through the mulch. In 1956, at one of our nurseries, we ran short of pine straw for mulch and mulched about two pipeline sections with sawdust. Three or four days after we had finished planting, we got a 4-inch rain in about that many hours and we only had two drills in the center of the bed left after the rain finished. I have not tried sawdust since then because of this. We tried wheat straw at one nursery this year and the wind blew it off before we could wet the beds down; however, we plan to try wheat straw again next year. For the present, pine straw appears to be the best, most economical mulch we have tried; however, I am keeping a close eye on hydro-mulch as used by St. Regis.

It seems that I get involved in discussing packaging methods at every nurserymen's meeting. We still use cotton as the waterholding media for our seedlings in Florida. This year, however, I have opened our bidding up to a product called Kimpak. This is a pulp product manufactured by Kimberly-Clark and is reported to hold sixteen times its weight in water. We put a study in last year using this material and our observations were that it would be equal to, or superior to, cotton as a waterholding media for baled seedlings. We still are looking for any water holding media that is equal to cotton, Kimpak, or sphagnum moss and be cheaper. We are still concerned about the disease known as Sporotrichosis which we think is carried in sphagnum moss. For this reason, we hope we never have to go back to sphagnum moss in our nurseries. We have not tried the clay dip since some literature reports no advantage in using this for increased seedling survival.

I have some slides of the machine used by Buckeye Cellulose at Perry, Florida, which is used to convey the labor along the beds for lifting the seedlings. They have used this machine for several years and like the results they have obtained. We built a machine very similar to this but it was too small for our large nurseries and for this reason we don't use it.

This is a picture of a plow developed for running the allies and building up the shoulder of the beds. The basic "V-shaped" plow was developed and used first at our Herren Nursery in south Florida. The soil there is sandy and this V-shaped plow pressed the soil into the sides of the bed satisfactorily. However, in west Florida where the soil has clay in it, this V-shaped plow skimmed over the soil and did not do a satisfactory job. We added the two plows in front which softened the soil and then the V-shaped press plow did a nice follow-up job.

This is a side view of a reciprocating blade root pruner. The blade is operated off the power takeoff of the tractor and severs the roots rather than tearing them as a stationary blade would do. The slides along the side can be adjusted to control depth and to stabilize the machine. The colters and plow are not necessary when you have deep allies.

This is a slide of a horizontal root pruner. The colters run between the rows of seedlings pruning the horizontal roots. This machine may be guided with the control bar you see in front of the seat.

This is a picture of a weeding cart being towed by a tractor. The foreman rides the cart with the weeders and has a line going from the hand clutch of the tractor to him. If he needs to stop, the foreman pulls the line clutching the tractor, thus stopping. The tractor will follow the allies and does not need anyone to drive it until you are ready to turn around at the ends. As you can see, this machine covers three beds, carrying either six or nine people, whichever is needed depending on the weeds.

Cone collection is one of our major costs in nursery production. Wouldn't it be nice if we could develop trees that would produce clusters of cones like this.

In summary, the cheapest thing we can have in the nursery is a well paid nurseryman that is forever mindful of cost, making proper plans, being prepared to do every job when it should be done and who is continuously testing and trying new methods for reducing his nursery operation costs and at the same time producing top quality seedlings.