TUSSOCK SEEDING AND MOUND PLANTING

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A true problem site for reforestation is found in the Lower Coastal Plain of south Georgia and north Florida. This site is most often typed as pond, swamp, or flat. It is poorly drained and may be covered with water most of the time. Worthless shrub vegetation such as ti ti often comes in following fire to further complicate restocking. Thus a "double-barreled" problem is encountered.

The thought has often been expressed that such areas would never be restocked to pine once they were cut. Such areas, sometimes burned during dry periods, have often been considered simply wasteland, virtual graveyards of tree stumps and snags. Can much of this wet area be returned to productivity at a reasonable cost? St. Regis foresters at Fargo, Ga., hope that it can.

Some of the wet area soil has the highest growth potential in the locality; occasionally as much as 35 to 50 percent better than that of the surrounding higher land. Developing this growth potential is important to the landowners and the local economy when we consider the fact that 25 to 50 percent of the area in a locality may be this wet site land.

Certain limiting factors seriously challenge those who would reforest these areas. Slash pine, the tree best fitted to the climate of the area, has to have its root collar out of water to breathe but can send roots down into a very wet place. Therefore, the water level would need to be controlled. Finally, intense brush competition must be reduced.

Foresters of St. Regis Paper Company at Fargo are working on two methods of restocking these areas that appear promising. The first is termed "tussock seeding" and is used chiefly where equipment can't get in and competition is not too intense at the time of planting. The second is termed "mound planting'' and is used in areas where and when heavy equipment can operate and usually where competition is severe, as in a ti ti flat or swamp. "When" is important since it may mean only a short period each year.

"Tussock seeding" is done in a pond or swamp, preferably at the time of high water to insure against future inundation. Potentially good seedbeds for slash pine seed are often found on old rotten pine or cypress stumps, cypress knees, dead snags, tussocks of bamboo vines, windfalls, and almost anything else lying on the ground above water (figs. 1 and 2). The job is carried out by wading from one tussock to another and dropping 6 or 8 treated seed on the most likely spot. It appears valuable to press the seed into the seedbed with a thumb or by patting firmly with a wet shoe. A seeded tussock every 15 or 20 feet should allow sufficient space for growth to merchantable size before cutting. Uniform coverage of a flooded area can be gotten easily if planted tussocks are marked with paint or lime.

Our 'oldest tussock seeding was done in May 1957, and was limited to just a few scattered tussocks. The best of these trees are now 7 or 8 feet tall. This pond was completely seeded the next spring and now has a good stand of trees averaging 3 feet tall. This pond had been burned in 1954 and competition had not come in too severely. To date about a thousand acres have been tussock seeded in the Fargo area.

Figure 1.--The author standing in water more than ankle deep and a slash pine nearly 6 feet tall grown from seed planted in 1958 on a tussock next to a fire-killed cypress.

Figure 2.--A slash pine from seed planted in 1958 on a pine stump. Other seedlings from seed planted at the same time on tussocks in foreground and background can be noted. Standing beside tree is a pole ax.

"Mound planting" is more applicable where competition is severe and the area subject to occasional flooding from backwater. It is used where and when the ground will support a light bulldozer. The method involves a form of mechanical site preparation, in which the bulldozer pushes a rough right-of-way going in, then returns over the same route pushing up mounds of earth. Fortunately, ti ti rolls up into a mound easily while

palmetto is very tough. Height of mounds needed can best be determined by a study of the area at a wet time. Cost and production will depend on a number of variable factors but should not greatly exceed one solid harrowing of palmetto land.

Once prepared and allowed a short time to settle, the mounds can be hand planted or seeded. Again, the seed should be pressed firmly into the seedbed. Unless these prepared areas are planted to pine almost immediately, encroaching brush will take over. This is a perishable pine site that can't be put in cold storage until next year.

The first mound restocking at Fargo was tried out during the 1959-60 planting season. A very desirable stand appears established. The tallest trees are 18 to 24 inches high, doing much better this first season than most "tussock trees."

Will tussock and mound trees continue to grow? I don't know. Many of you have probably watched a logging crew in a swamp fell a 300- to 500-board-foot slash pine and, looking down at the fresh stump with the sap oozing out, have seen that its giant roots grasp its "tussock" just like an octopus grasping another creature. Also, many of you walking through the woods have seen a few trees or a line of trees growing much better than the rest of the stand. A closer examination of the site showed that the better trees were growing on an old tram road fill. Don't these indicate that tussock and mound trees could solve the problem of reforestation of wet sites in the flatwoods?