

TREE-RAISING SUCCEEDS ON BARREN SAND TRACTS

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Promising leads on how to plant difficult sites, such as mined-out lands of the Humphrey's Gold Corporation east of Jacksonville, Fla., have come to light as a result of experimental plantings made on the corporation's lands.

After many attempts with grasses and bare-rooted trees had failed, foresters from the Lake City Research Center were asked to help bring trees back to these mined-out lands. Their preliminary tests indicate that, if trees are to survive and grow at all, the dunelike sands must be stabilized with muck, and seedlings must be planted in pots or plant bands.

Not gold, but titanium and ilminite are mined by Humphrey's Gold Corporation. The Company removes all existing ground cover and then separates out all minerals in the soil to a depth of 50 feet. What remains is pure sand, so nearly depleted of plant nutrients that all previous efforts to re-establish a plant cover have failed. Windblown sand adds considerably to the problem. Surprisingly, however, soil moisture is plentiful a few inches below the surface.

Slash, loblolly, and sand pine were grown in the nursery in paper pots to provide a reserve of nutrients and organic material. Then, to counteract wind damage, the potted seedlings were planted in sand stabilized with muck. The muck was spread 2 inches deep on top of the sand over the entire area to be stabilized. Where pots were planted in bare sand for comparison, wind damage was clearly demonstrated. Here sand was blown from around the pots and nearly all roots were uncovered (fig. 1). One year after planting in stabilized sand, slash pine survived best of the three species, with 90 percent of the seedlings alive' (fig. 2). Loblolly and sand pine both had somewhat lower survival rates. Planting in untreated sand gave poor survival.

The U.S. Forest Service was interested in working with the problem because this mined-out land is probably the most unfavorable planting site that will be encountered. Fortunately, the aggregate area of these mined-out lands in Florida is relatively small. However, insight gained here can be used profitably in reforesting other unfavorable areas.

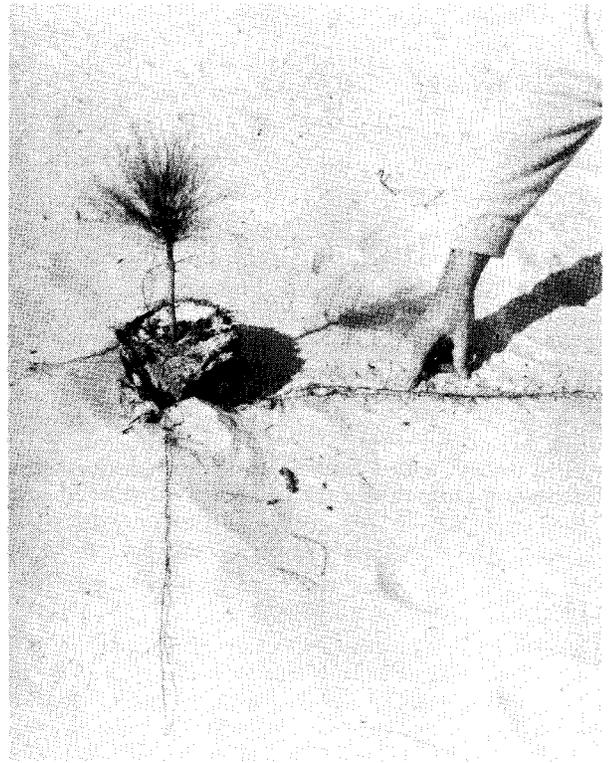


Figure 1.--Potted seedlings planted in bare sand. Wind uncovered most of the roots.

Figure 2.--Potted slash pine in mucked sand. First year's growth and survival were good.