

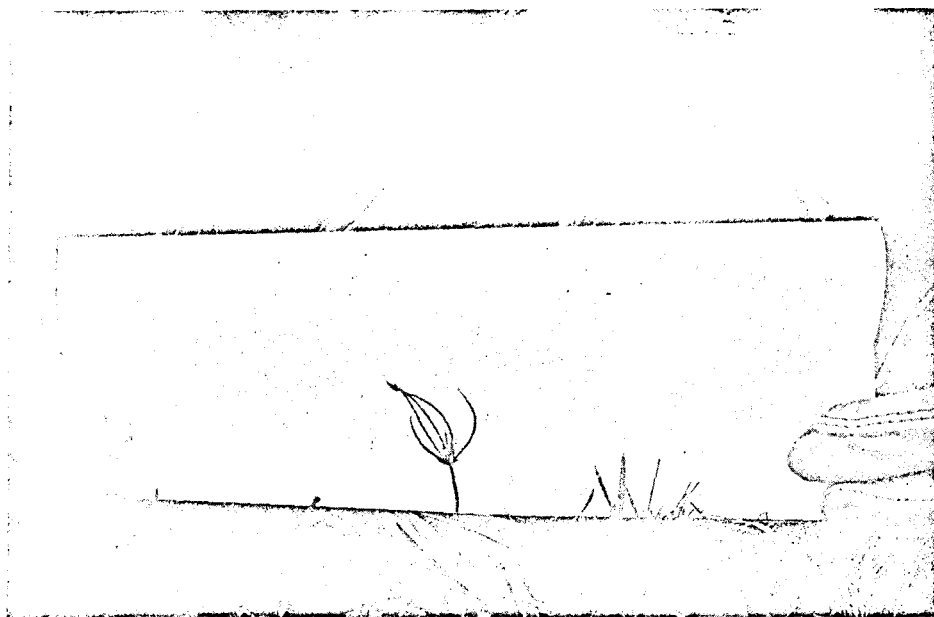


Figure 1.—A newly germinated slash pine seedling with its repellent-treated seed coat still evident.

The First Successful DIRECT SEEDING in South Florida

By O. Gordon Langdon

Southeastern Forest Experiment Station, Forest Service, U. S. Department of Agriculture in cooperation with the Florida Board of Forestry, The Atlantic Land and Improvement Company, and The Collier Enterprise

The first successful direct seeding on record in south Florida was made in November, 1956, using repellent-treated slash pine seed in a test of seeding rates and site treatment. By July, 1957, the "catch" averaged 810, 3,200, and 5,400 seedlings per acre for sowing rates of $\frac{1}{2}$, $1\frac{1}{2}$, and $2\frac{1}{2}$ pounds per acre, respectively. These results are both encouraging and significant, because all past direct seeding with untreated seed have failed. Seed predators were the principal cause of these failures.

The test seeding was made on a 12-acre tract owned by the Collier Enterprise near Sunniland in Collier County, Florida. The area is cut-over pine land, and has a typical growth of saw palmetto, gallberry, and wiregrass. Six-foot strips were chopped at about 12-foot intervals with a Marden brush-cutter in July 1956. In November the study area was divided into twelve one-acre plots. Four plots were broadcast-seeded at each of the three rates with treated slash pine seed.

Twenty-five pounds of slash pine seed were treated with the following chemicals: 4 ounces of 50 per cent wettable Endrin powder, 10.4 ounces of Arasan-75, 2.5 ounces of aluminum powder, and 1 quart of diluted Dow Latex 512R (the concentrate diluted 1:10 with water).¹ The chemical treatment was designed to protect the seed from rodents, birds, insects, and fungi

until moisture and other conditions were favorable for seed germination.

Some seedling germination began three to four weeks after sowing (Fig. 1). However, rainfall of only 1.32 inches from December 1 to February

18 curtailed early germination. Heavy rains—one of 4.25 inches in the latter part of February and one of 1.61 inches in early March—provided sufficient moisture, and germination reached a peak during mid-March. The treated seeds, which lay on the ground for about three months before germination, were not taken in any appreciable amount by the seed predators.

The number of seedlings on the plots varied significantly with the sowing rate (Fig. 2). The corresponding milacre stockings (i.e., the per cent of milacre plots with one or more seedlings) were 45, 77, and 84 for the three tested rates of $\frac{1}{2}$, $1\frac{1}{2}$, and $2\frac{1}{2}$ pounds per acre.

The chopping treatment did not significantly influence the number of seedlings established. The undisturbed plots averaged 2,950 seedlings and the chopped plots 3,340 seedlings. Chopping, however, may have certain advantages in the reduction of fire hazard which should be considered in direct seeding.

On the basis of the July tally, the $\frac{1}{2}$ -pound seeding rate produced an acceptable stand both in number and distribution of seedlings. Seedling mortality is likely to be high in this locality, however, so the $1\frac{1}{2}$ -pound rate will probably prove best in the long run.

These initial results will, of course, have to stand the test of time and be supplemented with other trials before direct-seeding recommendations can be made. However, the success of this first test makes the future bright for direct seeding as a method of slash pine reforestation in South Florida.

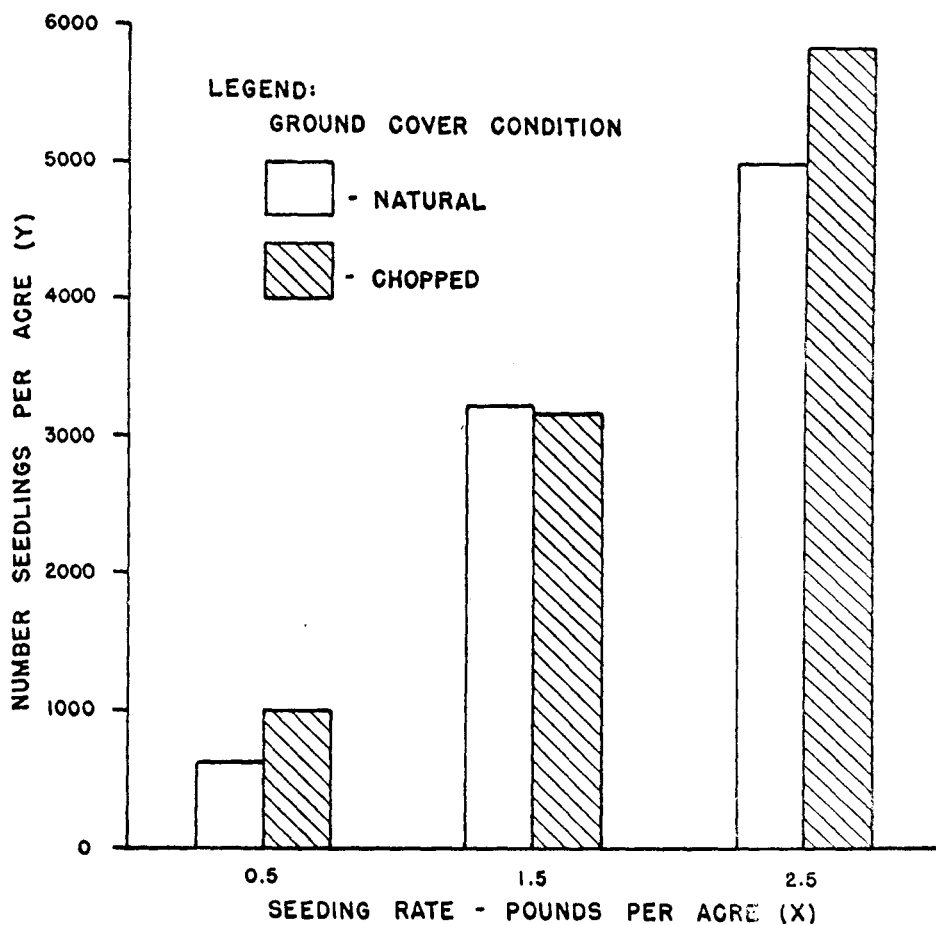


Figure 2.—The number of seedlings established per acre as of July 1957 by seeding rates and ground-cover conditions.

¹Recommendations of Mr. Donald A. Spencer of the Denver Wildlife Laboratory, U. S. Fish and Wildlife Service as contained in the Proceedings, Southeastern Direct Seeding Conference, August 22-23, 1956, Savannah, Georgia. Woodlands Research Department, Union Bag-Camp Paper Corporation.

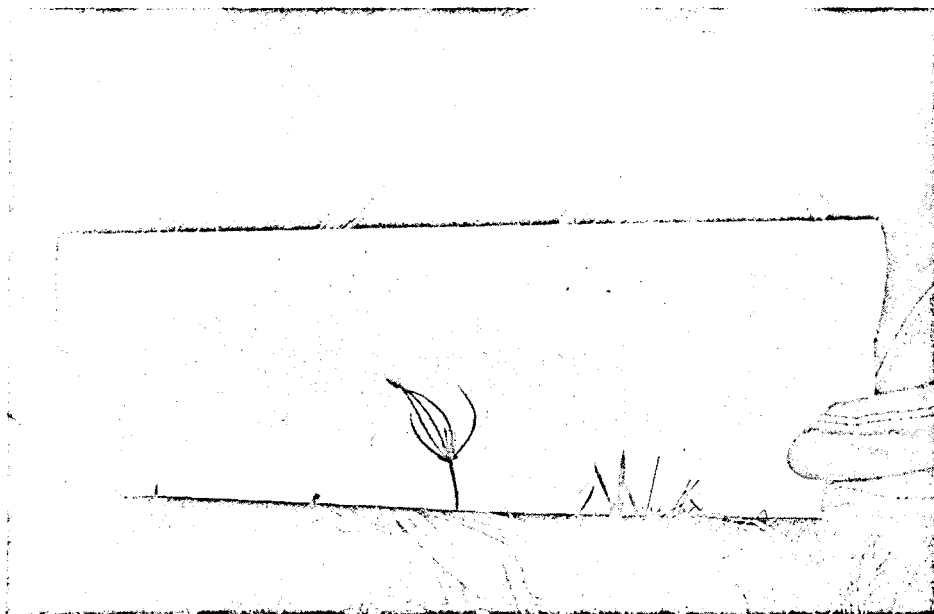


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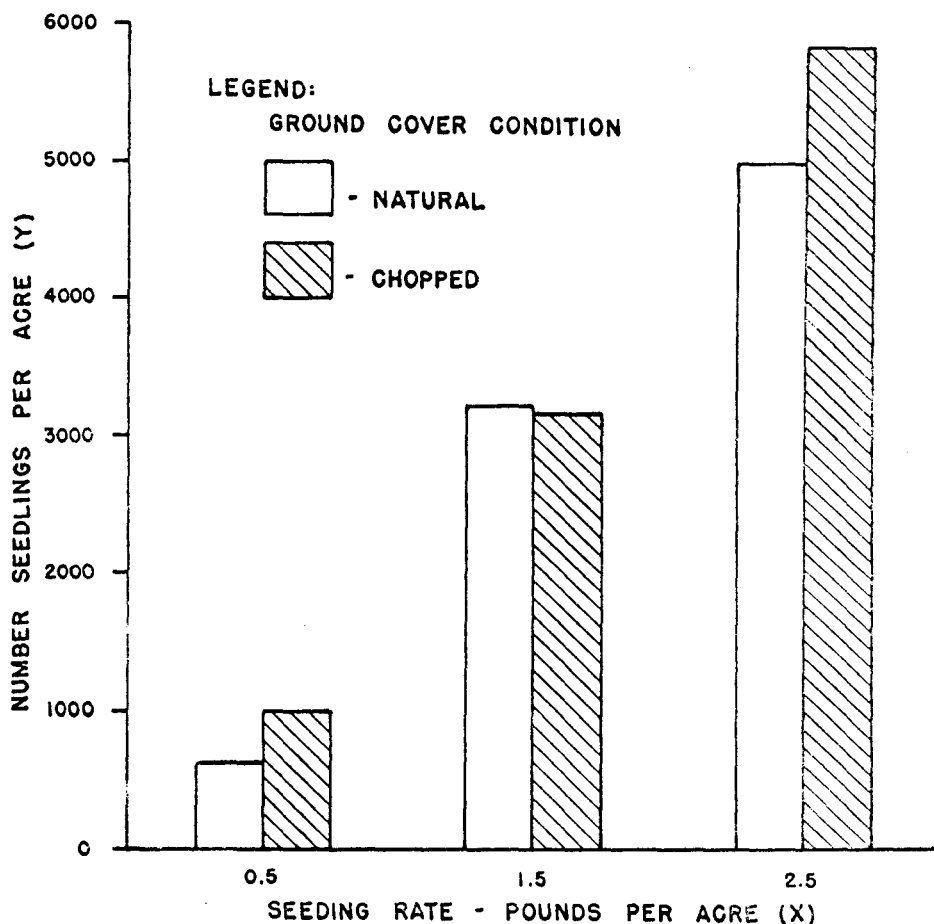


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