

30. TREE IMPROVEMENT PROGRAM OF A. J. HODGES INDUSTRIES, INC.

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The Experimental Area of A. J. Hodges Industries, Inc. was established for the development of better pine trees for southern pine consumers, and for the experimental study of fish and game.

The area is located on U. S. Highway 171 between Hornbeck and Florien, Sabine Parish, Louisiana. It consists of 4,500 acres enclosed in an eight foot woven wire fence. The northern edge of the longleaf pine belt runs through this area.

One phase of our work includes fish and game management in co-operation with Louisiana State University, School of Forestry, Department of Fish and Game Research, directed by Dr. Bryant A. Bateman.

One 225 acre man-made lake has been stocked with large-mouth black bass and bluegill bream. Four small ponds of one to five acres in size are being used for research for various other species of fish.

Deer, elk, and turkeys have been stocked for propagation. The deer herd is comprised of the native white-tail, mule deer, Japanese fan tail sika, and three varieties of the European fallow deer. One of these is solid white, one chocolate brown, and one white and chestnut spotted, resembling the white-tail fawn. These deer, one bull elk and three cow elk were all imported from a game farm in Wisconsin. Pen-reared turkeys were imported from northeast Louisiana for stocking purposes.

Our major interest, of course, lies in forest research. We are following what might be called a five-point program. Though not listed according to priority, these are our problems:

1. Working with other interested parties on shortening the "grass stage" of longleaf pine.

2. Producing dense-wood trees for the pulpwood industry-- selecting trees having dense wood (a large percentage of summer wood as compared to wood produced by spring growth) and propagating them through subsequent generations.

3. Seeking a "superior tree" that will combine rapid growth, high quality lumber, disease resistance, and drought hardness. This problem is attacked by crossing species and individual trees, each having one or more of the desirable characteristics, then field testing the progeny resulting from such hybridization.

4. Establishing an arboretum. We are in the process of collecting all of the some ninety-one species of pine in the world that will grow in northwest Louisiana. These are planted in a concentrated area for observation of growth and quality characteristics and for hybridization purposes. At present, we have obtained forty-six species.

5. Vegetative propagation. Getting root formation on pine trees of merchantable size classes has long been known as a definite need, yet in some cases, pine is rather stubborn about producing roots. A large number of people have attacked this problem from a great many angles with little success, particularly with loblolly pine.

We are working on the idea of rooting cuttings in greenhouse beds. As far as is known by the writer, no success has ever been attained in rooting loblolly pine cuttings.

We have for this purpose a specially constructed greenhouse in which the air temperature, relative humidity and soil temperature can be rigidly controlled. These are kept at 62-65 degrees F., 85-95 percent and 80 degrees F. respectively. These conditions are maintained constantly. Under these ideal atmospheric and soil conditions, we use six different types of rooting mediums combined with various chemical and rooting hormone treatments, giving us twenty-one different combinations of treatment.

To date, after twelve weeks in the greenhouse beds, some degree of success has been noted on cuttings from one-and three-year-old seedlings. Although no rooting has been seen on any of the cuttings from mature trees, we are very encouraged about the fact that we have rooted loblolly pine. Perhaps the mature cuttings will require a more refined version of the method we are now using. This will be our next problem.

In our Forest Research program, we are pooling our efforts in cooperation with the following:

The Texas Forest Service
Forest Genetics Laboratory
Texas A & M College
Dr. Bruce Zobel

Forest Service, U. S. Department of Agriculture
Southern Forest Experiment Station
Philip C. Wakeley

Louisiana. State University
School of Forestry
Professor A. B. Crow

We also exchange information and ideas with any other person, organization, or institution which has a mutual interest in the Southern Pine Tree Improvement Program.