

The Northern Institute of Forest Genetics

Tour Guides: Hans Nienstaedt and Staff 1[/]

The Northern Institute of Forest Genetics was established at Rhinelander, Wis., in 1957. The Institute is a field office of the Lake States Forest Experiment Station, whose headquarters are maintained in St. Paul, Minn., in cooperation with the University of Minnesota. It is one of three genetics institutes established by the U. S. Forest Service in the United States. The other two are at Placerville, Calif. (Western), and Gulfport, Miss. (Southern).

The major purpose of the research underway and planned at the Northern Institute is to clarify the basic genetic and associated physiological processes of northern trees and the factors that determine their resistance to diseases, insects, drought, frost, and other major enemies. The practical objective is to improve the heritable quality of planting stock of the northern conifer and hardwood species. Currently the Institute has 30 active formal research projects in phenology, physiology of flowering, effect of growth substances, variation and selection, inheritance of characteristics, tree breeding, and vegetative propagation. There are also a number of informal or exploratory studies underway, including one on radiation effects on trees.

The Institute is ideally located for its experimental work. Immediately adjacent to it is the Hugo Sauer Nursery, operated by the Wisconsin Conservation Department in cooperation with the U. S. Forest Service and producing 7 to 9 million young trees each year for forest planting. It offers excellent facilities for observing early survival and growth of experimental stock, and most of the stock used by the Institute is grown there.

Through interested cooperators, all the forests of the Lake States, regardless of ownership, provide a source of material from trees with superior or unusual characteristics. Outplanting areas for progeny tests have been reserved in all of the National Forests of the region, including the adjacent Nicolet and Chequamegon National Forests.

1/ Staff members assisting were Philip R. Larson, Physiologist; Thomas D. Rudolph, Research Forester; Robert B. Hill, Research Forester; Kenneth Kessler, Plant Pathologist; and Richard Peters, Propagator.

The Institute occupies a new 8,000-square-foot laboratory building. This building has space and equipment for an eventual staff of 10 scientists. It includes four controlled-environment rooms, an excellent library where literature on tree genetics and physiology is being assembled, and adequate offices. Facilities are available for tissue culture and auxin bioassays. Pollen is handled in specially constructed rooms with temperature and humidity control.

Supplementing this main building is a modern, fully automatic greenhouse covering 2,400 square feet, and an attached headhouse and office laboratory. Nearby is sufficient lath house and coldframe space for present needs.

Results of studies, as they become available, are reported by the Lake States Forest Experiment Station in a series of Technical Notes and Station Papers. More comprehensive reports are published in scientific and professional journals or as special bulletins.

Between 1957, when the Institute was established, and September 1961, about 30 technical and more than a dozen nontechnical articles were published on the work of the Institute. Copies of these and of other reports by the Station staff may be obtained by writing to the Director, Lake States Forest Experiment Station, St. Paul Campus, University of Minnesota, St. Paul 1, Minn.