

33. TREE IMPROVEMENT ACTIVITIES AT NORTH CAROLINA STATE COLLEGE

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As yet there is no formal program in Forest Genetics at the School of Forestry, North Carolina State College. However, some existing studies and future investigative work are designed to contribute to tree improvement, at least in a small way. Additional research on a more substantial basis is planned for initiation as soon as funds and manpower permit.

Included in the present studies are:

1. A small test of certain selections of loblolly and shortleaf pines from the Southwide Pine Seed Source Study. The stock for this test was grown in the Clayton Nursery in Johnston County, North Carolina, and out-planted on two School Forests,--the Hope Valley Forest in Chatham County and the Hill Demonstration Forest in Durham County. The test is not designed for rigorous assessment of source differences, but should provide bonafide specimens for future breeding and other tree improvement activities.

2. A small test, in cooperation with the Institute of Forest Genetics, Placerville, California, involving mainly hybrids of shortleaf and loblolly pines. Outplantings of this stock on the Hill Forest in Durham County and near the Clayton Nursery in Johnston County are re-examined periodically. Records include height growth, vigor, incidence of tip moth infestation, etc.

3. A test of local seed source of loblolly pine, involving a 10-tree sample of seed from each of three school Forests: the Richland Creek Forest in Wake County, the Hope Valley Forest, and the Hill Demonstration Forest. These forests are located roughly at the apices of an isosceles triangle, with the base equal to 10 miles, and the two sides about 30 miles each. The test is in its first year in the field, and no startling differences have become manifest as yet. Seed from all 30 trees were tested in the greenhouse and showed the usual large between tree differences, which were not too clearly associated with source. Of some interest was the observation that one tree consistently suffered heavy damping-off losses in all five replication, heavy losses occurring even when the two adjacent rows (with rows spaced two inches apart) were completely free of loss.

