

PROBLEMS NEEDING STUDY IN
GROWING MORE PRODUCTIVE SAWTIMBER TREES

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We have heard of the work being done in the forest genetics field in this and other regions of this country as well as in other countries. Problems needing study in this region are, I am sure, of a similar nature to those being studied and proposed for study in these other places.

First I would like to say that in talking about sawtimber trees, veneer as well as sawlogs are included.

A word might be said about the relative importance on a more or less long-range basis of sawtimber production in the Lake States region. The 50 million acres of commercial forest land in the three states is some 10 percent of the 461 million acres of commercial forest land in the United States. Of this 50 million acres, all but the swamps and poorest sand has in the past produced, and will again be capable of producing, sawtimber, much of it of high quality. The inadequacy of the supply of good grade sawtimber is shown by the continued over-cutting of our sawtimber and the small proportion of requirements supplied by the Lake States forests.

With over three-fourths of our forest lands capable of producing high-value sawtimber, a long-range program such as is involved in genetics research should give adequate attention to improvement of sawtimber productivity.

The principal sawtimber species among the softwoods are red or Norway pine and eastern white pine. To grow better pine sawtimber faster, the problem is primarily related to reforestation. Although more than 1,800,000 acres have been planted up to the present, probably almost half of which is red and white pine, there remains a large area to be planted. The present rate of reforestation in the Lake States is about 70,000 acres annually and appears to be on the increase.

Since reforestation work involves a substantial cash outlay, the quality and productivity of the planted trees is of particular importance to those doing the planting. For sawlog production, the kind of trees we plant now will affect the crop up to a century or more hence. Until the final harvest at the end of the rotation, there will of course be an opportunity to select and weed out the poorer trees, trees with slower growth characteristics, poor bole form, crooked and rapid taper, heavy and persistent branching, twisted grain and other undesirable characteristics. We need to know what to look for in terms of external characteristics that may have significance as to heritability. Foresters who do the marking or selection of trees in intermediate or selection cuts or select seed trees to leave could then be guided by this information.

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With the cost of planting the trees, exclusive of nursery stock and the fixed costs of ownership and management, the same regardless of the class of stock used, a considerably increased cost for stock that will increase production and quality would be good business. Superior growth rate, quality of the sawlogs or other products produced, and resistance to disease and insects would justify higher stock costs. The only increased cost of producing such superior stock would be the increased cost of the seed. Better growth rates would reduce the cost of release and increase survival. Better form would reduce the need for close spacing and non-commercial thinning.

Hardwoods present a different problem because they are almost entirely reproduced naturally. Very few hardwoods are planted. Because of the specialized uses of hardwoods, the development of trees with the most desirable wood characteristics for these uses is of importance. High growth rate, both diameter and height, straight stems, small branches, self pruning, low stem taper, resistance to rot, and other desirable characteristics should be striven for. If we knew more about how to judge the desirable external characteristics and vigor of trees that are due to heredity rather than environment, the forester could do a better job toward improving future stands in making selection cuts.

This brief discussion could only hope to touch upon a few of the problems and needs in growing more productive sawtimber trees in the Lake States. A thorough problem analysis to provide a sound basis for a coordinated program on a long-range basis, it seems to me, is urgently needed.