FOREST REQUIREMENTS FROM THE VIEWPOINT OF RESEARCH

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A major objective of the research forester in the field of forest production is improvement in the quantity and quality of forest crops produced by a given quantity of forest land. More simply, this means he must aim to produce a better product more rapidly and to do that with increased efficiency. This involves many things, one of which is an improvement in the basic material with which he must work, namely, trees. And in recent years this pursuit has led him more and more to the possibilities for improvement inherent in tree species and to variations within these species which may be brought out through racial selection, tree breeding, and related activities.

More specifically along these lines of thought, it is generally agreed among research foresters that we need to pay particular attention to improvement of the quality of our present forest stands as a first step in forest management of any property dedicated to production of forest crops. This concept, in fact, dominates most management plans, along with building the volume of growing stock. While it must be granted that a great deal of the needed improvement can be done mechanically in our present stands, that is, through removal of poorly-formed, decadent trees in harvest cuttings, various silvicultural intermediate cuttings, and by pruning, there is a great deal that can be done through attention to genetic variations once they have been studied and their importance understood. In other words, a better understanding must be gained of the possibilities of variation within species and this knowledge applied in forest management.

Here, it should be emphasized that forestry research in tree improvement must be kept far ahead of current needs in practical management. Granted, we already know far more about forest improvement than is now actually being put into practice in most quarters, this is as it should be When answers to practical forestry questions are needed, we rarely can produce them quickly, we must have a reserve to draw upon. Tree improvement research in many phases fits in this category,that is, research in this field must anticipate demand.

The foregoing must not be taken to indicate that all tree improvement needs lie in the future. We badly need certain knowledge now, particularly in connection with research in silviculture. For example, a great deal of our stand regeneration as well as regeneration of land areas now bare of trees will be done by planting seeds or seedlings, More and more we are becoming aware that natural reproduction must be supplemented by planting of selected races of desirable species. In our oak forests, we often fail to obtain reproduction of desired hardwood species after cutting, or get reproduction from inferior parents left in the stand. Planting improved stocks of conifers and hardwoods will be one solution of this problem.