

NEED AND OPPORTUNITIES FOR COOPERATION ON BREEDING

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I'm sorry that I probably won't give you as good a summary as Hank Baldwin's because I'm plumb worn out. I'll try briefly to point **out** some areas in which I think a Northeastern Tree Improvement Committee would be helpful to the work on breeding and hybridization in this region. Cooperation between the tree breeders in this region has been good. We all know each other, we swap pollen, and we see each other often enough to know what work is in progress. In addition, an annual published summary of negative breeding results, crosses that failed, methods that failed, etc. would be very helpful. We can usually get publication of positive results in the technical journals but I have yet to find a periodical that will publish long lists of failures. The negative results inbreeding work, in fact in all biological research, can be as important as the successes if only to avoid repetition. In recent years (and particularly in Europe) I have seen much unnecessary repetition because we don't report all of our errors and negative results.

The tree breeders need cooperation on the growing of larger progenies. If we're to get the basic data on mode of inheritance that is needed to apply genetical mass selection in stands which are naturally regenerated, we must grow progenies of a large number of carefully selected trees. It's relatively easy to make these intraspecific crosses. The breeding trees may be miles apart but pollen can be sent to the location of the mother tree. If we can get cooperation from foresters in the field to collect the pollen or to make the pollinations in the various localities (it would seldom take more than **3 to 4** hours) we would make much more rapid progress. Then we need cooperation to grow the seedlings, perhaps from the State nurseries. After that we need the labor and the land to plant them. It would be ideal if they could be worked into the planting programs of industry or responsible landowners. So to get this basic information on inheritance we need a lot of help from people we don't even know. Perhaps a regional committee could arrange for the cooperation to tie in all of these aspects. Such a committee might also help us find the cooperation to mass produce some of the most promising species and racial hybrids; help us get started at least on a small scale.

We also need the cooperation of landowners and foresters to start establishing experimental seed orchards of at least one or two important northeastern species. These seed orchards should be located in the optimum range for the species, not necessarily optimum for vegetative growth but for flowering and fruiting. For example, it would be unwise to set out a white pine seed orchard in the Philadelphia area. The trees grow well vegetatively, but reproductive vigor appears to be lacking--perhaps because we are at the edge of the natural range.

One area of work where we need much help is the search for outstanding trees. I think a working committee could attempt (perhaps not too successfully) to describe these ideal trees; to provide criteria for the forester in the field. On this selection work we need the advice of the practicing forester. I've often told Westveld (of our Station) that in my opinion he is the one man in this region to delineate the ideal, elite spruce because he has worked with this species so intensively and has seen more spruce trees on all of its sites than probably any other forester. We need the cooperation of

such experts and of local foresters on these selection jobs.

In short, I believe there is an excellent opportunity for a permanent committee to speed up forest tree improvement work in the Northeast by fostering closer cooperation between research and practice.

Pauley I think most of you know that there are forest, tree improvement committees which are functioning in other parts of the country. The first of these, and perhaps the most productive today, has been the committee on Southern Forest Tree Improvement. There is also a committee functioning in the Lake States known as the Lake States Forest Tree Improvement Committee. In the Northern Rocky Mountain region there is a Forest Genetics Steering Committee which is not as formally organized as those in the South and Lake States but which is carrying on the same general functions. I understand that in the Pacific Northwest a Steering Committee is also in the process of being organized.

We are very fortunate to have with us today, Carl Ostrom, the former chairman of the Committee on Southern Forest Tree Improvement, a man whom I consider to be one of the chief reasons that committee has made such notable advances in its short life. I have asked him if he would be kind enough to discuss for us the activities and organization of the Committee on Southern Forest Tree Improvement.