

THE ACTIVITIES OF THE COMMITTEE ON SOUTHERN FOREST IMPROVEMENT

by

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(Committee Chairman January 1951 to January 1953)

As lead-off man on this program on better trees for southern industry, I would like first to say very briefly why we are here.

In essence, the forestry problem and the forestry opportunity in the South is to grow and better products on the land are available. The obvious way to do this is through better protection and management. However, on more and more properties we already have good protection and good management. On these properties, production is now bumping a ceiling. It can't go much higher with the unimproved wild trees we are managing and planting. But the odds are quite good that we can rise this ceiling through progress in forest genetics. With an annual planting program that should soon approximate half a billion trees a year, we need improved southern trees and better forest genetics information a lot sooner than we can probably get them.

With these needs in mind, and with the stimulus of results of forest genetics research elsewhere, several forestry agencies fostered the first Southwide tree improvement meeting here in Atlanta just two years ago. The situation was ripe and the meeting was a success, thanks to many of you here today who attended that meeting.

At the close of the meeting, the co-chairmen appointed a standing Committee on Southern Forest Tree Improvement to carry out coordinating and informational activities in this field. The committee was asked to report back to another general meeting at a later date.

This morning I will tell you of the activities of the Committee since its inception in 1951. I will discuss the way in which we have gone about our work, and what we have come up with to date. In the discussion period at the close of this talk, the committee would appreciate any of your suggestions for its future work.

The original committee of 12 was fairly representative of various State, Federal, industrial, and educational forestry groups, as shown by the following membership list.

D. A. Anderson, Texas Forest Service
T. E. Bercaw, Gaylord Container Corporation (Secretary)
Floyd Cossitt, U.S. Forest Service
Keith W. Dorman, Southeastern Forest Experiment Station
G. I. Garin, Alabama Polytechnic Institute
George Hepting, Division of Forest Pathology, BPISAE
C. M. Kaufman, School of Forestry, University of Florida
P. T. Lannen, West Virginia Pulp and Paper Company
E. B. Price, South Carolina Forest Service
P. C. Wakeley, Southern Forest Experiment Station
E. G. Wieseuegel, Tennessee Valley Authority (Vice-Chairman)
Carl E. Ostrom, Southeastern Forest Experiment Station (Chairman)

We have defined our guiding purposes as follows:

1. To advise and assist those interested in the improvement of southern forest trees in arranging and conducting research and development programs.
2. To provide a clearing house for information on forest tree improvement.
3. To provide for or assist in coordination in the conduct of a South-wide program of tree improvement research and development.
4. To foster and encourage the advancement of knowledge of southern tree genetics.

At the South-wide meeting in 1951, recommendations were presented in the form of reports of four temporary subcommittees. They dealt with seed collection, geographic strains, tree selection, and breeding. Our committee took these four subcommittee reports as the charter for our initial work.

In order to get under way on the work that was cut out for us at the 1951 conference, we skipped over certain formalities of organization and decided to keep the same membership and officers for an initial 2-year period in order to concentrate on getting things done.

The first action of the committee was to set up permanent subcommittees to do the work. I should like to take the time to mention these subcommittees and their chairmen, because it is largely to these groups that credit for accomplishments should go. The standing subcommittees are as follows:

Geographic Source of Seed -- P. C. Wakeley, Chairman
Genetic Control of Seed -- Floyd Cossitt, Chairman
Tree Selection and Breeding -- Keith Dorman, Chairman
Progeny Testing -- E. G. Wieseuegel, Chairman

Realizing the keen interest in forest tree improvement, and the availability of help outside of the main committee of twelve, several dozen additional scientists in genetics and related fields were appointed to the subcommittees, They are:

E. J. Schreiner	R. N. Lindgren	Keith Leasure
G. L. Schnur	W. N. Santell	L. T. Easley
J. R. Hamilton	R. A. Bonninghausen	G. H. Burton
E. E. Hinson	C. C. Doak	Bruce Zobel
T. E. Maki	W. H. Cummings	E. S. Harrar
W. N. Palmer, Jr.	F. X. Schumacher	P. H. Harvey
W. B. Baker	F. I. Righter	S. S. Pauley
S. B. Chase	B. Zak	M. Y. Pillow

This audience owes its thanks to all of these men for lending a helping hand to the standing committee of twelve.

Accomplishments

The largest single undertaking sponsored by the committee is a Southwide study of the performance of geographic strains of the four major southern pines. This is perhaps the largest pine seed source study ever attempted. It involves 19 nurseries and 39 planters in 15 states. Because of its importance, time has been allowed on this program for Phil Wakeley to tell you about it firsthand. However, I think it will be obvious, when you hear of the scope of this study, why a Regional approach, regardless of State and organizational boundaries, is essential for some types of studies in the field of forest genetics. No one organization can do the job alone, and this is the reason for the existence of the coordinating committee.

Before leaving this major Southwide undertaking in geographic seed origin, I want to pay tribute to the vigor and devotion of Phil Wakeley and his numerous cooperators in organizing this study and getting it under way.

The second type of undertaking of the Committee was to sponsor a series of guideline publications. The primary purpose of these guides is to get more people into the act by showing them how to go about forest genetics work in a reasonably sound manner. A second purpose is to assure enough agreement in methods so that the results of different studies can be compared one with another.

The initial guide, prepared by the Subcommittee on Geographic Source of Seed, was a "Standardized Working Plan for Local Tests of Seed Source." It was written largely by P. C. Wakeley, the South's acknowledged authority on the subject, and should be a real boon to those who need to define their seed source more closely within a limited area such as one State.

The second guidebook sponsored by the Committee was Keith Dorman's comprehensive guide to selection, entitled "Hereditary Variation as a Basis for selecting Superior Forest Trees". This publication, available from the Southeastern Forest Experiment Station, attempts to answer the following questions:

What are the basic types of variation in trees?

What assurance do we have that any of them are inherited?

What particular traits should one look for in selecting superior trees for different tree-grower and tree-user needs?

Anyone interested in the magic of natural variation and the tremendous possibilities it affords for selection of superior types should certainly be interested in this publication and others of its kind.

A follow-up publication in the form of a shorter and simpler guide to the selection of superior trees among the leading southern species has been proposed. The Committee itself has not reached general agreement that such a simplified guide is both desirable and feasible. Any expressions of opinion on this point will be welcomed in the discussion.

Third in the guidebook series is a guide to progeny testing of forest trees, prepared by the Subcommittee on Progeny Testing, under the chairmanship of E. G. Wiesehuegel. Copies are available from the TVA office in Norris, Tennessee. Those who have attempted progeny testing know something of the complexities of such tests. It is not easy to design them to give dependable answers to all of the right questions. *Few* of us in forestry are fortunate enough to have a statistical expert at our elbow, or a professional geneticist to tell the statistician just what the problem is. This guide to progeny testing should make it possible for many more foresters to conduct sound progeny tests and to get reliable results at lowest cost.

A guidebook for practitioners on the application of sound genetic principles to the collection of seed for planting is being prepared by the Subcommittee on Genetic Control of Seed. There is no question that in the South-wide planting program of 300 million trees a year many thousands of dollars are wasted annually. Much of this waste occurs through collection of seed from poor parent trees, through moving the seed too far from the point of origin, and through failure to maintain adequate supplies of good local seed in storage for use in years when seed crops are short.

A third activity of the Committee on Southern Forest Tree Improvement is the exchange of current news and other information in the field of forest genetics. This activity is performed in three ways. The first is through meetings, both of the committee and of larger groups such as this audience. A great deal of coordination can be and is accomplished through formal and informal discussion at both types of meetings. Because of the way the committee was selected, its members are directly associated in their regular work with a large share of the southern forest genetics research undertaken thus far. Hence each meeting of the committee is in part a coordinating session.

The second medium of exchange is the semi-annual forest genetics newsletter. This newsletter is prepared by the Committee and sent to those known to be active in this field. Third, the Subcommittee on Tree Selection and Breeding has prepared a "Directory of Forest Genetics Activities in the South". This directory tells who is doing what, and should be of real value in fostering coordination and avoiding duplication. For those interested in pollen sources for hybridization, the directory lists the great variety of native and introduced species already available in arboreta and botanic gardens of the South.

A final activity of the standing Committee is to answer the question "What can I do to help in a program of southern forest tree improvement?-- where do I start?", To meet this need, the Committee has sponsored a publication entitled "Suggested Projects in the genetic Improvement of Southern Forest Trees". This publication gives the Committee's idea of the job to be done in research on seed origin, seed collection, and the development of superior trees through selection and breeding. One reviewer who knows the complexities of this work has termed it a thousand-year program. This description of it will at least give you an inkling of the opportunities to work on any one of many projects listed. We hope that the program, the directory, and the guidebooks will help to explain the "what", "who", and "how" of forest genetics research to those who can participate.

At the 1951 Southern Tree Improvement Conference, it was suggested that the committee ask the help of specialists in the State agricultural experiment stations in a program of forest genetics research. Accordingly, the committee wrote to each of the southern agricultural experiment station directors before the directors' 1951 summer meeting. The directors voted at that meeting to approve forest genetics as a field of work for a regional project under the Research and Marketing Act. Dr. C. C. Murray, Dean and Director of Agriculture here in Georgia, was appointed regional technical advisor for such a project.

Since that time there have been no new R. M. A. funds for regional projects. However, the Committee feels that there are many individual phases of forest genetics on which the specialists in the agricultural experiment stations could be of real assistance. We have not given up the attempt to get their help.

Returning for a moment to the recommendations that came out of the January, 1951 conference, the Committee zeals that the short-term suggestions listed at that time have largely been taken care of. A few such items still on the books are:

1. Completion of the guide to the application of genetics in the collection of seed for forest planting.
2. Possible preparation of a simplified guide to selection.

3. Promotion of additional arboreta or testing grounds for genetics research, as needed.
4. Provision for the cataloging of selected superior trees or strains.

Up to this point, the things I have been talking about are largely plans and facilitating services. The real progress on the forest genetics front will be made by those individuals who are actively turning new corners in original research, or putting into practice the knowledge that is being accumulated. The real accounting of this progress in the South will be given by those speakers who follow on today's program. This, we hope, is in part the fruit of the Committee's efforts.

Where Do We Go From here?

Finally, I should like to discuss the manner in which the Committee expects to function from here on. First, the Committee has recently studied its own make-up, and has decided to add two representatives of the lumber industry, and to provide for three instead of two forestry school representatives. The Committee asked the respective associations of the southern pine lumber industry, the southern hardwood lumber industry, the pulpwood industry, the forestry schools, and the State forest services to nominate the members who will represent them on the Committee for a 2-year term starting January 8. The matter of rotation of memberships is left up to the associations. Thus far, we plan that the TVA, the Division of Forest Pathology, the two Federal forest experiment stations, and the regional office of the U. S. Forest Service will each have one standing membership on the Committee.

Up to this time the Committee has served only as a technical advisory and coordinating committee. We have not decided to get into the field of soliciting and dispensing financial assistance to forest genetics research. Instead, we have chosen the simpler, and to us more logical, course of working with the national Forest Genetics Research Foundation as a regional technical advisory group. This Foundation was organized and is headquartered in California. Its purpose is to obtain financial needed for progress in forest tree improvement through education and research in any part of the country. Ten of its directors are from the South, including the chairman of our southern Committee, who is an ex-officio member of the Foundation's board. This is as far as I can go at the moment without telling you at second hand what Dr. Babcock will tell you today at firsthand about the foundation.

As to future plans, the full membership of each of our own committee's four subcommittees will meet separately tomorrow afternoon to take stock and chart a course. Then the standing committee of now 14 members will consider these plans at its regular semi-annual meeting on the following day, Any suggestions from this audience in the discussion period a few minutes from now will aid the committee in working most effectively.

In closing, I should like to say that the Committee on Southern Forest Tree Improvement is a very fine group to work with. In furthering the cause of better trees for the South we have in a sense been conducting an experiment of our own. We have worked together as a South-wide committee which cuts across political and organizational lines toward a common end. Hatchets used on other occasions are checked in at the committee-room door. We believe that this experiment in working together is going to be successful. We hope this regional-committee approach deserves emulation in other forestry activities designed to make the best use of our Southern forests.