

NORTH CAROLINA

AGRICULTURAL EXTENSION SERVICE

ANNUAL REPORT

FOR

1953

Period covered December 1, 1952 to November 30 1953

Name of Project Farm Forestry Extension Work

Covering work done by John L. Gray, In Charge, Forestry Extension;

J. E. Ford, Assistant Extension Forester; and District Forestry

Extension Specialists W. T. Ellison, Jr., J. H. Phillips, Jr.,

R. S. Douglass, W. M. Keller, G. W. Smith¹/ and F. E. Whitfield

Percentage of time devoted to project 100 1/ April 10, 1953 to Nov. 30, 1953

Date Submitted: Jan. 30, 1954.

Signed:

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Asst. State Director
of Extension Work

Date Approved: _____, 195 .

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Director of Extension
Work, U. S. Department
of Agriculture

ANNUAL REPORT
FARM FORESTRY EXTENSION WORK
NORTH CAROLINA

December 1, 1952 - November 30, 1953, Inclusive

John L. Gray, In Charge, Forestry Extension
John E. Ford, Assistant Extension Forester

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N. C. Agricultural Extension Service
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Farm Forestry Extension - Summary of Accomplishments - 1953

The eight members of the North Carolina Farm Forestry Extension Department had an extremely busy year in 1953. Practically all major activity goals as set forth in the "1953 Annual Plan of Work" were met or exceeded except those relating to the preparation of publications and news articles.

Training of county extension personnel received particular attention. During 1953, two two-day forestry training schools and two one-day training schools were held at which 89 county and district extension workers representing 43 counties received on-the-ground training in forestry practices and techniques. In addition, forestry programs were conducted at 10 regular extension district meetings and the Extension In-Service Training School for New Workers.

As in past years, the majority of work centered around assisting county personnel in planning and conducting county forestry extension programs. Specialists of this department assisted agents and others with holding a total of 826 field and indoor meetings attended by 37,818 farmers, 4-H Club members and others. They accompanied agents on 1827 farm visits to help advise and train farmers and club members in putting improved forestry practices into effect at home. They helped with the establishment or completion of 641 adult and 4-H result demonstrations, took part in 93 radio broadcasts and assisted in the construction of 26 fair exhibits.

Considerable emphasis was also placed on assisting county agents in planning their county programs. A total of 58 counties received definite help in preparing annual county forestry plans. Fifty counties were assisted in drawing up forestry sections for county long-range "Agricultural Challenge" programs.

Emphasis was given to the promotion of the forest planting program. However, the number of persons, particularly adults, participating dropped somewhat in comparison with 1952. This was partly due to the fact that the public nurseries ran out of planting stock about February 1 - six weeks to two months before the end of the planting season. In spite of the drop, 950 4-H Club members and 865 adult farmers planted a total of 3,543,000 seedlings as a direct result of Extension efforts. This represented 50% of all persons ordering trees and 26% of all trees planted in the state. In addition, two additional mechanical planters were purchased for use by farmers and others, bringing the total to 17 available on a county basis.

Assistance to county personnel in training 4-H Club members was stepped up over 1952. Forestry staff members assisted agents with 400 field meetings and 93 indoor meetings attended by slightly over 22,000 4-H'ers. This included tree identification and leaf-printing instruction given by staff members as part of the regular instruction at Schaub, Swannanoa and Manteo 4-H camps during the summer.

In the marketing field an interview-type investigation was completed into the Christmas tree marketing situation. The summary of interviews reveals that over half of the dealers would like to locate additional supplies of red cedar and other species that can be grown in North Carolina. Accordingly, plans are being made to step up farmer and 4-H activity in Christmas tree planting and production.

Two new commercial wood preservation plants went into operation during the year in the Eastern District. From all reports, wood treating plants on farms are also increasing in number.

ANNUAL REPORT

1953

FARM FORESTRY EXTENSION WORK

NORTH CAROLINA

John L. Gray, In Charge, Forestry Extension
John E. Ford, Assistant Extension Forester

I. Introduction and Background

North Carolina's farm forests play an important part in the farm and forest economy of the state. Woodland constitutes ^{50%} 52% of the total acreage in farms, and 200,176 out of a total of 288,508 farms reported woodland acreage in 1949. Furthermore, farm woodland acreage increased by 497,000 acres from 1944 to 1949. The average area in woodland on farms reporting was 48 acres.

In 1949, 9,418 farms reported selling \$7,265,807 worth of standing timber, or an average of \$771 per farm reporting. An additional 8,000 farms reported selling \$2,608,550 worth of forest products. Fuelwood, posts, poles and sawlogs cut for home use in 1949, are conservatively valued at \$11,529,000 on the farm. Thus, farmers harvested for home use or sale a conservative total of \$21,403,357 worth of forest products or standing timber in 1949. This represented an average return of \$2.20 per farm woodland acre.

Farmers own ^{51 1/2%} 48-1/3% of all North Carolina's forest land. They own more forest land than any other class of forest owners. The wood-using industries, which rank second in number of persons employed and third in

annual value of products sold depend on farm woodlands for a large percentage of their raw materials. In 1948, the Southern Forest Experiment Station estimates that the delivered value of raw forest products from farm forests plus the value of products cut for home use on the farm totalled \$60,000,000.

Farm forests also serve to control erosion, equalize stream flow and provide food and shelter for game birds and animals.

In spite of this sizable contribution, farm forests, on the average, are producing at only one-third of potential capacity. In 1949, the average farm forest acre in North Carolina produced about \$1.00 worth of products or standing timber for sale, plus \$1.20 worth of products for home use. In this same year, farm woodlands in fully productive condition which received systematic management and protection produced from \$3.75 to \$9.50 worth of products for sale, plus additional material for home use.

Building farm woods production from one-third to full capacity requires very little cash investment where the owner is able to do his own work. Labor during the late fall or winter months is one necessity. The second requirement is the application of good judgment in carrying out such practices as planting forest tree seedlings on idle land and cutover or thinly stocked woodland, removing cull and crowded trees for home use or sale, harvesting mature trees so as to reserve adequate growing stock or sufficient seed trees, applying businesslike marketing methods in selling standing timber or forest products and protecting the woods from fire, livestock, insect and disease damage.

The majority of our farmers have not made the change-over to full production as yet. There are three main reasons for this:

1. They do not realize how much increased income and other benefits

are earned when timber is handled as a crop compared to returns under present slipshod management methods or lack of management.

2. They do not know how to apply the various practices required in their own woodlands.

3. As youngsters they received little or no training in good timber-growing methods and developed little or no appreciation of the importance of the farm woods to the individual farmer.

II. Program Objectives

The county agents are the forestry extension program leaders in the counties. The job of the personnel of this department is to encourage, train, and assist the county agents, their local leaders and other cooperators to plan and conduct county forestry extension programs which will, in the shortest possible time, accomplish the following main objectives:

- A. To make all farm woodland owners and operators aware of the increased income and other benefits received when forest trees are grown and managed as a crop in contrast to returns from mismanagement or no management.
- B. To acquaint them with practices needed to bring into fully productive condition every acre of woodland and every acre of idle land on farms best suited for forest tree crops and to create a strong desire on their part to adopt such practices.
- C. To show them how to apply such practices successfully in their own woodland.
- D. To create an appreciation on the part of farm youth of the important contributions forest trees and forests make to the individual farmer, farm, community, county, state, and nation. To train farm boys and girls to carry out improved forest practices on the home farm so that

they can do a successful job when they become farm forest owners.

The balance of this report will be devoted to showing what farm forestry extension personnel did during the 1953 program year to help county extension personnel carry out these objectives.

III. Organization and Personnel

Farm forestry extension is a cooperative project between the Agricultural Extension Service of the North Carolina State College of Agriculture and Engineering of the University of North Carolina and the Agricultural Extension Service of the United States Department of Agriculture. It is conducted under the provisions of the Smith-Lever Act, the Clarke-McNary Act, Section V, and other supporting laws, both federal and state.

Farm forestry extension work is under the general supervision of Mr. David S. Weaver, Director of the North Carolina Agricultural Extension Service.

The following personnel were employed during the program year:

State Level:

John L. Gray, In Charge, Forestry Extension, State College, Raleigh
John E. Ford, Assistant Extension Forester, State College, Raleigh

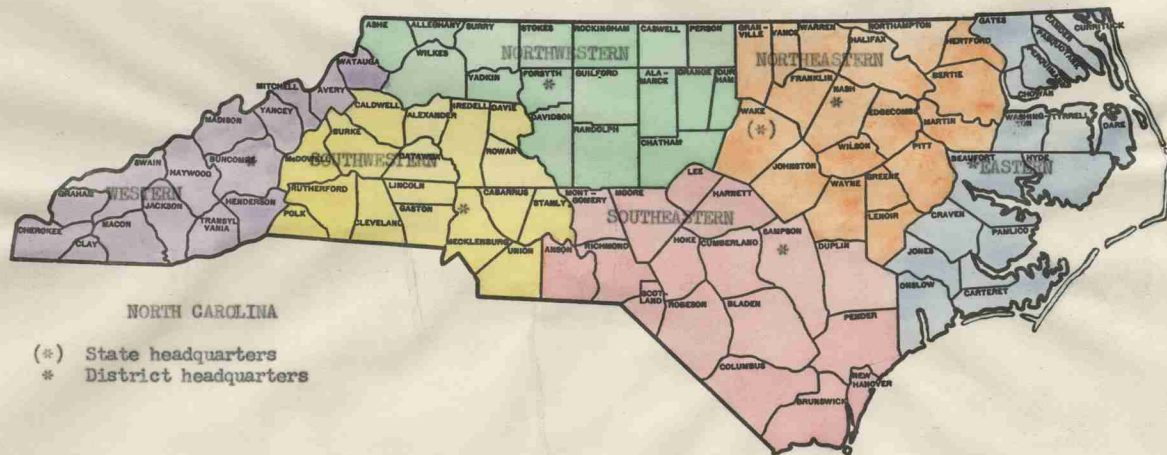
District Level: A forestry extension specialist is assigned to each of the six North Carolina extension districts as follows:
(See Map I for district boundaries and headquarters.)

Eastern District - W. T. Ellison, Jr., Washington
Northeastern District - J. H. Phillips, Jr., Nashville
Southeastern District - R. S. Douglass, Clinton
Northwestern District - W. M. Keller, Winston-Salem
Southwestern District - G. W. Smith, Charlotte (Mr. Smith resigned to enter private business on September 1, 1952. He returned to his present assignment on April 10, 1953.)
Western District - F. E. Whitfield, Asheville

Each district specialist is directly responsible for promoting the program with county extension personnel in his assigned territory and for

Map I

Extension Districts
Showing Territory Assignments and Headquarters
for Forestry Extension Specialists



NORTH CAROLINA

(*) State headquarters
* District headquarters

answering requests for specialist assistance and for information. The two state-level specialists train, supervise and, when needed, assist the district specialists in carrying out their duties and prepare subject matter material, visual aids, etc., for their use and that of county extension personnel.

IV. Major Activities and Results

A. Overall - These are listed as a summary page in the front of this report.

B. Forest Planting

1. Results - 1953 planting goals called for 1,050 4-H Club members to set out 1,300,000 forest tree seedlings and for 1,600 adult farmers to set out 4,000,000 seedlings due to the direct influence of county agents and specialist personnel. Results in terms of trees placed with farm people by extension personnel were very nearly reached with respect to 4-H Club members since 950 boys and girls ordered and planted 1,192,250 tree seedlings. Adult plantings, however, fell well below expectations, with only 865 adults planting 2,351,600 seedlings. These, of course, do not include all farm plantings but only those where trees were ordered on application forms carrying an Extension Service credit line.

Partly responsible for this situation was the fact that the seedling supply at the public nurseries was exhausted by February 1. However, overall seedling supply was higher than in past years except in the 15 western counties where seedlings are available free of charge from the Tennessee Valley Authority's Norris nursery. In light of this, we can only conclude that our planting promotion program must be started earlier in the fall. Another contributing

1,192,250
2,351,600
3,543,850
3,5126 = X:100
261250
20
90
120

cause is that we have not emphasized the adult phase of the program as much as we have the 4-H Club phase.

In spite of the fact that we did not reach our goals, extension played a significant part in the state's forest planting program. Extension personnel were responsible for placing 50% of all applications received by the public nurseries and 26% of the total number of trees planted. County, district and state summaries are shown in Section IX of this report.

In eleven counties, county extension personnel can be credited with placing over 100,000 tree seedlings with farm people and other landowners. County extension personnel in 90 out of the state's 100 counties took active part in promoting the program. Planting machines were placed in Chatham and Mecklenburg Counties as a result of extension efforts. Both of these were placed too late to affect planting rates in these two counties last season, but they are expected to boost planting activity in future years. A number of individual machines placed last year were used to plant over 100,000 trees per machine this year.

Planting is a slow but reliable means of increasing farm income from land not suited for crop production. Data from older plantations indicate that over a 50- to 60-year period pine plantations can be expected to return approximately \$10 per acre per year on a stumpage basis. Therefore, the establishment of an additional 3,500 acres in forest plantations through the efforts of extension personnel means a potential of \$1,750,000 in income for these landowners

over a 50-year period plus benefits from erosion control in many cases and a supply of timber for the home farm.

2. State and area level activities - Early in the fall, arrangements were made through conferences with forestry representatives of two pulp and paper companies to set up an allotment of 1,500,000 free pine seedlings to be purchased by them from North Carolina Division of Forestry nurseries for distribution to 4-H Club members free of charge. A third pulp and paper company agreed to furnish 500,000 pine seedlings to be distributed free to adult landowners in 39 southern Piedmont and Coastal Plain counties. A maximum of 5,000 seedlings was allowed per applicant. County agents and assistant agents were to be responsible for taking the orders and promoting the distribution of these trees in the counties.

A conference was also held with the assistant state forester in charge of nurseries, the district forester with the Tennessee Valley Authority, and Western District Forestry Extension Specialist F. E. Whitfield at which plans for promoting tree planting in T. V. A. area counties were discussed. It was agreed that county agents should process all applications from farm people.

Following these conferences, price lists and application blanks for buying tree seedlings or taking advantage of free offers were mailed to all county agents, together with a circular letter pointing up the need for forest planting and outlining the procedure for ordering trees. This information was also sent to the district agents and members of the 4-H staff. Following this, monthly progress reports covering trees ordered by 4-H Club members by counties were

prepared and mailed to the agents and supervisors. A total of 19 circular letters were prepared and sent to agents to keep them up to date on planting activities.

State-level specialists contacted North Carolina Division of Forestry personnel at least once a week to keep abreast of nursery inventories and seedling supply.

On an area basis District Specialists G. W. Smith and F. E. Whitfield emphasized planting needs at 1953 fall district meetings of county personnel. Mr. Smith prepared a flip chart showing trends by counties over a 4-year period in number of trees placed by extension personnel. This was correlated with trends in pulpwood production and such information as was available on lumber production by these counties. Smith's presentation at this district meeting was so effective that the Program Planning Department of the Extension Service is photographing his charts to make slide sets for use by the agents in the Southwestern District.

F. E. Whitfield used charts prepared by the Tennessee Valley Authority for the 15 North Carolina counties located in the Valley area (which compose Whitfield's assigned territory) at the fall district training meeting of county agents in his district. These charts showed county by county the amount of farm land needing planting and the percent planted over the past 15 years. Whitfield also correlated this information with trends in pulpwood and other forest products production to impress on the agents the importance of a planting promotion program.

At two two-day forestry training schools held for county agents

and 4-H Club agents from 11 Western District counties, 15 Southwestern District and 6 Northwestern District counties planned stops were made at a 54-year-old and 60-year-old white pine plantation on the historic Biltmore Estate. One portion of the 54-year-old plantation had been systematically thinned six times since planting. The value of material harvested plus the value of growing stock now on the area totalled \$498 per acre. This was on land which has been severely eroded at planting time. Fortunately, a photographic record had been kept of all operations showing the condition of the area before planting and how it looked before and after each of the six thinning operations.

The 60-year-old plantation had been established on land in better condition than the 54-year-old planting. It had grown \$725 worth of timber per acre, and a recent thinning had removed 50 cords of pulpwood, leaving 24,000 board feet per acre as growing stock. The 65 agents attending these training meetings were intensely interested in these two areas since many of them had been working hard to get farmers in their counties to plant trees, but had never seen the end result of a forest planting.

3. Assistance at the county level - Specialists of this department assisted county extension personnel during 1953 to carry out planting programs in their respective counties through helping conduct the following number of meetings:

<u>Planting Meetings at Which Forestry Specialists Assisted</u>	
Field demonstrations:	For adults ----- 13
	For 4-H Clubs ----- 130
	For other youth -- 27
Indoor demonstrations and talks:	For adults ----- 2
	For 4-H Clubs ----- 13
<hr/> 185	

In addition to assistance with programs at meetings, forestry extension specialists accompanied county agents on 215 farm visits to make planting recommendations. They helped county agents to establish and complete 40 result demonstrations featuring planting. They took part in 16 radio broadcasts and prepared 12 news articles for local and state-wide release. They made 191 agent contacts in connection with planting activities.

Examples of county programs of special interest in which forestry extension specialists assisted are exemplified by work in Mecklenburg, Surry and Graham Counties in 1953.

In Mecklenburg County, District Forestry Extension Specialist George Smith assisted County Agent George Hobson in convincing the Charlotte Chamber of Commerce that the purchase of a planting machine would greatly stimulate forest planting by farmers and other landowners. The Chamber agreed. The presentation program was held at the Southern States Fairground as a Farmers' Day program and was attended by over 1,000 farmers and other interested people. The program opened at 5:00 p. m. on September 16, with a demonstration of the planting machine by Mr. Smith and Mr. Hobson, who also explained how any landowner could apply for use of the machine free of charge. This demonstration was followed by a barbecue dinner provided through the courtesy of the Chamber of Commerce. Following the dinner L. Y. Ballentine, State Commissioner of Agriculture, was the featured speaker. Also featured was the showing of a color film, "Mecklenburg Farms and Farmers," by Mr. Hobson.

This machine, a trailer type costing \$350, was given to the farmers of the county by the Chamber. County Agent Hobson is responsible for scheduling the machine and training users in its operation. At the time this report was written, the machine had been in almost continuous use and was "booked up" several months ahead.

For several years, wood-using industries in Mt. Airy and the Elkin Kiwanis Club had been sponsoring a timber stand improvement contest for Surry County farm boys. It was difficult to get many boys to enter. Accordingly, this year it was changed to a forest planting contest. As a result, 59 club members ordered and planted a total of 73,500 tree seedlings as contrasted with 3 club members who planted a total of 2,500 seedlings the year before.

Thirty-three out of the 59 club members participating planted 1,000 seedlings or more apiece. This was the minimum number considered for entrants in the contest. Forestry Extension Specialists Gray and Keller served as judges. Judging was based on the following scoring system:

<u>Item</u>	<u>Points Allotted</u>
Survival -----	100
Number of trees planted -----	200 points for 3000 seedlings (10 points added or subtracted for each 500 planted above or below 3000.)
Selection of planting spots -----	300
Suitability of site -----	100
Protection from livestock -----	100
Contestant's record -----	100
Contestant's story -----	100
	<u>1000</u>

Nine of the plantings judged were established on cut-over land.

The first-place winner, Troy Wright of Route 1, Dobson, planted 5,000 white pine seedlings in a 20-acre tract of woodland which had been clearcut in 1951. Survival counts revealed that 95% of his trees were living. This winter, Troy plans to cut down undesirable hardwood saplings which are shading his planted trees and poison the stumps by spraying them with a mixture of 2-4-5-T in fuel oil. He will also plant another 4 or 5 acres. This will be released the following year. He will continue the two operations until the entire area has been planted and the planted seedlings have reached a height where they will hold their own with hardwood competition.

This contest was responsible for the establishment of some very valuable planting demonstrations on both open and cut-over land in practically every community in Surry County. They will be used as stops on forestry educational tours in future years.

Forestry week held during Arbor Day week in Graham County this year is an example of a mass education program in planting which has been carried out successfully in a number of western North Carolina counties. Gray and Whitfield assisted County Agent Bill Flake and Home Demonstration Agent Nellie Jo Carter to put on forest planting programs before every 4-H Club in the county. A glass front planting box filled with dirt was used for indoor demonstrations of planting technique. Arbor Day programs were put on at both of the county high schools with Gray and Whitfield as featured speakers. On Arbor Day a white pine seedling wrapped in cellophane, together with an application blank for ordering seedlings and a letter to parents, was distributed to every school child in the county; and planting

demonstrations were conducted in every classroom which had not been visited during the week.

The week also featured a forestry field day for adults and forestry programs at meetings of the two civic clubs in the county - the Robbinsville Lion's Club and the Robbinsville Woman's Club. Altogether, the county agent, home agent and two forestry specialists put on forestry programs before 2,100 Graham County boys, girls, farmers, teachers and businessmen who heard about planting methods, needs, financial returns and opportunities.

In analyzing results, some special assistance was given to the county agent of Dare County this year. Dare is on the Atlantic Coast. Two large outer banks - Nags Head and Hatteras - separated by Croatan and Pamlico Sounds from the mainland make up part of the county. These banks, with the exception of a few areas, are practically treeless, particularly on the ocean side. Exposure to wind, salt spray and flooding by tides is severe. The inhabitants of this area have for several years been very much interested in establishing windbreaks around their homes. Since 1948, under the leadership of County Agent R. S. Smith they had planted a total of some 43,500 seedlings. Most of these were single and double row plantings around their homes, and a few were small block plantings. Loblolly, longleaf, slash, Austrian and maritime pines and red cedar had been tried.

In order to evaluate the success or failure of the various species an inspecting party consisting of Dr. T. E. Maki, head, forest management, School of Forestry, N. C. State College; R. L. Scheer, in charge of N. C. Division of Forestry nurseries; District Forestry Extension Specialist W. T. Ellison; and Extension Forester Gray

visited fifteen of these plantings, made survival counts and growth measurements. Results varied; but as a result of this inspection, detailed recommendations were given to County Agent Smith to guide him and his cooperators in further planting activities. Under severe conditions of exposure, slash pine and maritime pine seem to be the most promising. On high, dry, protected sites longleaf was recommended; and on areas subject to frequent flooding pond pine was suggested for trial.

C. Forest Management, Estimating and Marketing

1. Results - In the marketing field, one major accomplishment in 1953 was the completion of an investigation into in-state Christmas tree markets. This was not a scientifically designed survey since no list of dealers was available from which to draw a sample.

Extension Forester Gray drew up an interview schedule, which personnel of this department used in contacting seven wholesalers and 84 retailers in 26 different North Carolina cities and towns. A report summarizing the findings was sent to the county agents in early December. This report was broken down according to Coastal Plain, Piedmont and Mountain conditions.

The report revealed that half of all dealers interviewed in the Piedmont and Coastal Plain counties need additional amounts of quality red cedar. Mountain dealers need balsam fir. Four- to six-foot tall and six- to eight-foot are the sizes which sell most readily. They are paying or will pay from \$0.50 to \$2.00 apiece for good-quality fresh-cut trees delivered to their place of business. In view of this demand, we conclude that some expansion of

red cedar planting is justified and balsam fir planting in the mountains would be justified on suitable sites.

Educational efforts in timber estimating, as in past years, consisted of helping county agents conduct demonstrations in scaling standing timber and in establishing result demonstrations through training individual farmers in timber estimating and businesslike marketing methods.

Overall results in timber estimating are difficult to evaluate. However, as a result of extension's efforts in this field over a long period of time, a large proportion of owners have been led to ask for assistance from state and private consulting foresters in determining the volume and value of standing timber before putting it up for sale.

The establishment of result demonstrations in timber estimating and improved marketing methods can best be illustrated by a case involving assistance by Walter M. Keller, forestry extension specialist, Northwestern District. In 1953, more requests for assistance in estimating and marketing were received by Mr. Keller than for any other type of forestry information. From Mr. Keller's report comes the following illustration:

"Seton Westmoreland of Tobaccoville, Stokes County, is a typical example of a farmer assisted in estimating and marketing timber. He is an elderly farmer but had never sold any timber since he was holding it for a rainy day. Two poor crop years in a row convinced him recently that that day had arrived.

"He was at a loss to know how to proceed; so he called on County

Agent S. B. Brandon for help. Mr. Brandon called this specialist. Upon contacting Mr. Westmoreland, I learned that he had been offered \$4,300 for all the timber on his farm. After examining his woodland, I advised him to sell one 6-acre area of 73-year-old mature shortleaf pine and hold on to the rest of his timber, which was fairly young. I helped him to scale the timber on the 6-acre tract and furnished him a list of potential buyers.

"One of the buyers on the list was in need of trees which would make special-length timbers. He paid Mr. Westmoreland \$5,700 for the timber on the 6-acre tract.

"Next winter, Mr. Westmoreland's son will plant the 6-acre area with white pine seedlings."

Stories such as this spread throughout the community and county. Furthermore, after this area is planted, it will make an excellent tour stop where an impressive story of a practical operation can be told by Mr. Westmoreland himself. Others of a similar nature were written up by district specialists in annual reports and news stories, but space will not permit including them here.

In management, efforts centered on establishing practical result demonstrations so that farmers in a community and county can see the results of a thinning, hardwood control, or selective cutting demonstration. Fifty new result demonstrations were established in 1953. Six of these dealt with the application of herbicides to undesirable hardwoods to release pine reproduction or planted seedlings. In addition to single practice result demonstrations, simple management plans were written up for 81 farm woodland owners selected

as demonstration farmers in the Tennessee Valley drainage counties and elsewhere.

2. State and Area Activities - Training in marketing and management practices was given to 86 county agents and assistant agents attending four forestry training schools, and special training in the use of timber scale sticks was given to the 21 agents who attended two one-day schools in the Eastern District.

One day of each of the two schools held in the western part of the state was devoted to visiting the pulpwood storage yard of the Champion Paper and Fibre Company, Canton, N. C. Here J. H. Keener, in charge of wood supply for Champion, gave the 65 agents attending a picture of pulpwood procurement organization and supply problems. Pulpwood specifications were reviewed, as were measurement methods. A demonstration of how to scale a rail carload was given. The agents took down the figures and figured up the cord volume. They also saw demonstrations in scaling wood by the truckload.

Each agent attending the two western schools was taken through an exercise in selecting seed trees on six spaced plots in a mature stand of timber. It was emphasized that they themselves could help farmers insure that a seed source would be left after a timber sale by helping him select and reserve 4 to 6 well-spaced seed trees per acre.

In training meetings for Eastern District personnel, each agent was required to scale ten numbered trees and figure the sawtimber volume of each. They were also shown how timber is estimated through the measurement of all trees on $\frac{1}{4}$ -acre sample plots.

Procedure for handling management requests involving time-consuming assistance in timber marking and estimating was outlined by State Forester Claridge and Extension Forester Gray at four of six district training meetings attended by 164 county and district agents held in December. Mr. Claridge had prepared county-by-county information sheets covering assistance rendered by service foresters of the North Carolina Division of Forestry. For each county the name and address of the service forester to be contacted was typed out on the information sheet. These were distributed to each county agent attending these four meetings and to all other county agents by mail. Other work relationships as set up in the new Memorandum of Understanding between the two agencies were also discussed and questions freely answered.

Training in management and a new method of timber estimating and volume control in cutting operations was featured at a week-long meeting of personnel of this department in November. Specialists were trained in the use of a soil auger to determine site index and in "plotless cruising" using a simple angle gauge to determine basal area pulpwood volume and sawtimber volume. Instructors were Dr. T. E. Maki and Professor G. K. Slocum of the School of Forestry, N. C. State College.

This training school also featured a one-day tour of the School's "Hill Forest" to observe results in plantation thinning, the use of fertilizer, controlled burning and clearcutting, planting and release cutting operations.

New visual aids were furnished to all specialists in the form

of one print to each man of Southern Pulpwood Conservation Association's new farm forestry film, "When a Fellow Needs a Forester." These were donated upon request by the Champion Paper and Fibre Company. In addition, drawings of trees used in a flannel exhibit on timber stand improvement were reproduced in three colors and copies distributed to each specialist for construction of an exhibit for his own use. Copies were also sent to county agents upon request.

In October, the Farm Management Extension Department in cooperation with the Agricultural Committee of the North Carolina Bankers' Association held five area conferences to consider farm credit needs to finance recommended adjustments in farming systems. The programs, which were attended by over 200 bankers, consisted in each case of a thorough tour of a selected farm on which all data concerning present operations and income, recommended changes, predicted expenses and income from making such changes and capital needs to finance them had been worked out.

This department cooperated in the forestry phase in each case. A simple forest management plan was worked up with predicted yields for the next ten-year period. In each case the bankers were led on a tour of the woods. In addition to discussing its contributions and collateral value for loan consideration, they were given demonstrations in estimating volume and value of timber and how to figure growth percentages by the use of an increment borer. They were also told about sources of and types of assistance available to forest

owners and asked to urge clients to take advantage of this assistance in making timber sales and developing practical timber-growing enterprises. They heard presentations of case histories illustrating the value to owners of using such assistance.

The forestry phase of these programs was received with extreme interest. We felt that the bankers attending definitely became timber conscious; and, as leaders in their communities, we believe they will contribute greatly to the success of the overall program.

3. Assistance at the County Level - Forestry extension specialists assisted county agents in training farmers, 4-H Club members and others at the following number of field demonstrations and meetings:

Management, Estimating and Marketing Meetings at Which Forestry Specialists Assisted

Field demonstrations:	For adults -----	96
	For 4-H Clubs ----	80
	For other youth -	21
Indoor programs:	For adults -----	59
	For 4-H Clubs ----	36
Total meetings -----		292

In addition to this assistance, forestry specialists accompanied county agents on 1,174 farm visits to advise and train farmers and club members in management, estimating and marketing practices, helped them prepare 11 fair exhibits on these subjects, took part in 42 radio broadcasts, wrote 31 news articles for local and state-wide release. They visited 211 commercial operators to gather market information and discuss program cooperation. They prepared 16 circular letters to help keep agents informed on new developments in these fields. A total of 1,095 contacts were made with county agents in carrying out this phase of the program.

As in past years, all three of these work phases were spotlighted at large-scale forestry field days, tours and forestry week programs in a number of counties. Examples of these will not be given here since the basic details have been covered in previous annual reports.

D. Harvesting and Wood Preservation

1. Results - In the wood preservation field two new result demonstrations in service life of treated and untreated fence posts were set up - one at the Atlantic Christian Fairgrounds in Ahoskie, Hertford County, and one at the Winston-Salem Fairgrounds in Forsyth County. We now have a total of six of these demonstrations set up at fairgrounds, and they have attracted a lot of interest.

We do not know how many farmers have established on-the-farm wood treating equipment or how many are buying properly treated material as a result of educational efforts in this field. County agents in the eastern part of the state report that many are doing so, however; and we are continually running into farm treating plants which we did not know about previously. Two new open-tank type commercial plants went into operation. One is located in Currituck County and the other in Pasquotank County. A third plant for Carteret County is planned.

During the week of October 17, Extension Forester Gray and Extension Agricultural Engineer H. M. Ellis assisted county agents in Lenoir, Jones, Onslow and Pamlico Counties with holding four method demonstrations in preservative treatment of fence posts and fence construction technique. In Lenoir and Jones Counties the meetings were held at farms where the owner had a treating tank installed

and was already treating posts and lumber or had material drying in preparation for treatment. In Pamlico County the meeting was held at a semi-commercial plant operated in connection with a feed mill.

The rapid development and use of power chain saws, hand bow saws, chain-type post peelers, and the like, can be in part ascribed to extension's efforts in demonstrating this equipment. At present, all specialists are equipped with bow saws, filing kits, and explosive wedges. Four out of the six district specialists have one-man power chain saws on permanent loan from the manufacturers for demonstration use.

2. State and Area Activities - This department cooperated with North Carolina State College and the Southeastern Forest Experiment Station in holding a wood preservation short course in December. Extension Forester Gray and Assistant Extension Forester Ford served as instructors, along with School of Forestry faculty, experiment station utilization experts and experts from private industry.

This short course was held primarily for extension and state forestry personnel. Four district forestry extension specialists and one assistant county agent attended. It covered characteristics of the different preservatives, wood-destroying organisms and how they act, and open-tank methods of treatment. The School of Forestry's wood preserving plant was used in teaching treating techniques.

This information was passed on to Eastern District county agents in two one and a half-hour discussions at two one-day forestry training schools. The agents made careful notes during this meeting, particularly on methods for determining completeness of treatment.

During the summer copies of a Tennessee Valley Authority publication, entitled "Design and Operation of Open Tank Timber Treating Plants" were sent to all open-tank commercial operators and county agents in the treating section of the state.

In the field of harvesting methods and equipment this department spent considerable time helping with a state-wide logging equipment show sponsored by the North Carolina Forestry Association. The show was held on the farm of the Patterson School for Boys and ran two days - September 23 and 24. Extension Forester Gray and District Extension Forester George W. Smith spent a total of 15 days assisting County Agent Max A. Culp and other members of the show committee with preparations. Gray was in charge of the exhibit field and woods demonstrations; and District Specialists Smith, Keller, Whitfield and Ellison served as tour leaders. Over 800 loggers, lumbermen and furniture manufacturers attended this very successful show.

3. Assistance to County Extension Workers - Extension forestry personnel assisted county agents to hold 15 combination fence post and fence construction method demonstrations on a cooperative basis with the extension agricultural engineer. An additional 35 wood treating method demonstrations alone were also held. Two sawmill clinics were conducted in the Western District at which operators from six counties were present. Thus, a total of 52 demonstrations and field meetings were held on this phase of the program.

In addition, extension forestry personnel assisted county agents in making 146 visits to farmers to discuss the use of treated materials, treating procedure or logging methods. They made 62 contacts

with treating plant operators and harvesting equipment representatives to keep them up to date on late developments in these fields or secure their participation in the extension program. They made 161 agent contacts in connection with these phases of the program.

They prepared 2 circular letters, which were sent to county agents and plant operators, and 3 fair exhibits. They took part in 2 radio broadcasts and prepared 2 news articles for county or state-wide release on harvesting and preservation activities and methods.

The following news story written by James H. Phillips, Northeastern District forestry extension specialist, illustrates the response to the wood treating phase of the extension program:

"The Griffin brothers of Lewiston (Bertie County) are seeding several hundred acres of permanent pasture and are making sure that the fences are at least as permanent as the pasture.

"Last spring a post peeling and treating demonstration was held on the Griffin farm. Since then, the Griffins have constructed a post treating plant and spent a good part of the fall and early winter treating fence posts, using the cold-soak method with pentachlorophenol."

Phillips reports that the Griffins were wise in constructing a 16-foot tank - long enough to treat timbers also needed in construction. They also fashioned a chain-type post peeler which is powered by a gasoline motor.

The Griffins are treating some low-quality hardwoods as well as young pines thinned from their woodlands for fence posts.

E. Forest Protection

1. Situation and Results - 1953 was a banner year for destructive agencies. The fact that the 1953 growing season was the third extremely dry one in a row resulted in extremely dangerous fire conditions, particularly during the fall months, and weakened the vigor of forest trees over the state. As a result, insect pests were particularly numerous and did considerable damage.

Assistant Extension Forester Ford, a graduate forest entomologist, is responsible for keeping county agents alerted on insect and disease infestations as they show up and informing them on practical control measures. He keeps in close touch with the leader of the Forest Insect Investigations Branch, Southeastern Forest Experiment Station, the forest pathologist at this same station, and the Entomology Extension and Plant Pathology Extension Departments. Through circular letters, furnishing information to the Extension Entomology Department for their monthly "Insect Report" publication, and inspection of outbreaks and personal contacts with county agents concerned he sent out information on the following insect and disease infestations and control measures to be taken in 1953:

Fomes annosus - Showed up in several pine thinnings killing reserved trees.

Oak leaf blister - Mainly of concern to shade tree owners. Showed up all over North Carolina.

Anthrachnose - On sycamore. Concerned shade tree owners.

Elm leaf beetle - On shade trees all over North Carolina.

Ips engraver beetle - On pine all over the state. Estimated to have killed 13,800,000 board feet of standing sawtimber.

Southern pine beetle - Outbreaks on pine in late summer in McDowell, Madison, Swain and Buncombe Counties. Action still being taken.

Cankerworms - Some 120,000 acres of mountain hardwood defoliated this year. County agents were warned ahead of time to expect it and alert the public.

Agrilus - On oaks in upper Piedmont section of state. Numerous trees killed or severely damaged.

Hickory bark beetle - Found killing large numbers of hickories in two upper Piedmont counties.

Mimosa webworm - On mimosa and honey locust all over North Carolina.

The main result of Ford's action is that county agents are kept informed on these pests and know what to and what not to recommend. They are thus able to allay fears of timber and shade tree owners by giving them positive information as to what should be done.

Although fire danger was high throughout the late summer and fall months, fire damage in the southeastern and mountain sections of the state was not as severe as in past years. We believe this is partly due to the prevention efforts of the North Carolina Forest Service and to extension personnel.

2. State and Area Activities - At the two two-day forestry training schools held in the fall, county agents and assistant county agents attending from 31 counties received an illustrated talk in identification and control of some of the most serious forest insects and on littleleaf disease of shortleaf pine. In addition, all of them visited one of the most spectacular of the 16 oak wilt infestations in the state - an area of nearly an acre where oak trees were dead and dying. They were given the facts on this disease, plus a demonstration in the proper technique of collecting twig specimens from suspected trees to send to the Forest Pathology laboratory at Asheville or State College for identification.

In connection with protection, these agents also visited a result demonstration showing the effects of cattle grazing on native mountain hardwood reproduction and planted white pine. Such grazing in

the western part of the state is a serious destructive agency, more serious than forest fires. This fact was visually impressed on these agents.

In October, a fact sheet, tabulating North Carolina forest fires according to causes, was sent to all county agents in the state. Since carelessness in burning off fields, brush piles and trash is responsible for 1,000 out of a total of 3,000 fires on the average, agents were asked to concentrate on eliminating this cause. A suggested circular letter to be sent to all farm families over the county agent's signature was enclosed. A multilithed cartoon message showing how to burn brush safely was enclosed on the back. The plate for this was borrowed from the North Carolina Division of Forestry. The agents responded by ordering and sending out over 18,000 of these letters.

By concentrating on fire causes which can be attributed mainly to farmers, we hope to make a substantial contribution towards cutting down on the 3,000 fires that burn in this state every year.

3. Assistance to County Extension Personnel - Extension forestry staff members assisted county extension personnel with holding 28 meetings and demonstrations on protection phases, made 310 visits to farmers and shade tree owners to advise them on protection practices, took part in 8 radio broadcasts, wrote 3 news articles and prepared 9 circular letters on this phase of the program. They also helped establish 1 adult and 1 4-H exhibit on the effects of woodland grazing. They made 310 agent contacts to inform and assist agents in protection activities. Many of these contacts were made at agents'

requests and resulted in inspections of damaged or infected trees, identification of the causal agency and giving the owner recommendations for control.

F. 4-H Forestry

1. Results - As in other phases of the program results are hard to evaluate, particularly since this report is being written on time this year and summaries showing 4-H project completions are not yet available. Participation by club members in forestry through the completion of projects in planting, stand improvement, tree study by wood collection, tree study by leaf collection and forest protection has been steadily climbing since 1950, and it is our hope that this trend continued in 1953.

Assisting county agents to train 4-H Club members is one of the major phases of the program in forestry. In 1953, forestry extension specialists assisted in training 22,113 club members through helping county agents with field meetings, camps, programs at indoor club meetings, etc. This is approximately one-seventh of the total 4-H enrollment in this state.

The results of such efforts are difficult to measure. The contact the club member has with a trained forester is often brief - sometimes only through a 25-minute program of a local club meeting. However, we believe that even this brief contact, if effectively carried through, will help develop a future generation of forestry-conscious, or at least forestry-curious, farm woodland owners and citizens.

As already explained (see Planting - Results) 4-H participation in tree planting dropped slightly below the record number of trees

set in 1952, and 65 fewer club members ordered trees this year. This was not the fault of the club members or the program since the supply of seedlings was exhausted at a time when 4-H orders were reaching their peak and a large number of applications had to be returned.

2. State and Area Activities - In cooperation with the 4-H Department, arrangements were made in the spring to place district forestry extension specialists in three of the four area 4-H camps as regular instructors for county groups attending these camps during the summer months. F. E. Whitfield was assigned to Camp Schaub in Haywood County; W. M. Keller was assigned to the Swannanoa 4-H Camp in Buncombe County; and W. T. Ellison to the Manteo 4-H Camp in Dare County.

Each of these specialists was equipped with 20 complete sets of equipment for making permanent leaf prints. Each group attending these camps received one hour's instruction in tree identification, the uses of trees and making leaf prints. The equipment available resulted in everyone actually making leaf prints to take home.

4-H staff members in charge of these camps reported that this phase of the instruction program was especially popular.

No new activities were carried out on the state or area level. As in past years, this department cooperated with the North Carolina Division of Forestry in conducting a week-long "Forestry Training Camp for Farm Boys." This department selected the allotted 35 4-H delegates from the large number of nominations sent in by 4-H agents. Extension Forester Gray and Assistant Extension Forester Ford were

in charge of tree identification and insect and disease instruction, respectively, and assisted with other subjects and evening programs. The camp was held in the mountains this year at the Canton Y.M.C.A.'s Camp Hope in Haywood County. Two 4-H agents, Paul Church of Alleghany County and Robert Love of Transylvania County, attended as counselors.

Mr. Ford also put on a one-day forestry program at the annual state Negro 4-H wildlife encampment held at Crabtree Creek State Park. Both Gray and Ford served as judges in selecting district and state 4-H winners, and Gray attended the National 4-H Club Congress as one of the chaperons for the North Carolina delegation.

3. Assistance to County Extension Workers - Most of this department's efforts were concentrated on the county level - training assistant county agents (generally, the newest extension employees) in conducting forestry demonstrations and programs at club meetings, conducting contests in thinning and planting, and visiting and advising club members who are carrying out individual projects on their home farms.

Forestry specialists assisted county agents with holding 400 field meetings and with programs at 93 indoor meetings for 4-H Club members. They also assisted in establishing 252 4-H projects and completing 411. They served as judges or took part in awards tours in contests sponsored by local industries or civic groups in 13 counties.

In three additional counties, Sampson, Union, and Iredell, the district specialists assisted county personnel in securing sponsors and drawing up contest rules.

Extension forestry personnel served as instructors at 39 4-H Club encampments at which 78 counties were represented and 3,277 club members and 307 local leaders received forestry instruction.

In the Eastern District, W. T. Ellison, forestry extension specialist, emphasized Christmas tree planting and tree identification projects. He assisted county agents with explaining forestry projects and opportunities before all white 4-H Clubs in all counties in the district.

In the Northeastern District, J. H. Phillips concentrated on working up a series of slides along with a script, a flannel graph on timber stand improvement, a fence post treating and fence construction demonstration using miniature equipment and a tree study demonstration. These packaged programs were explained to the assistant agents along with suitable movie films and were then loaned to various counties by Phillips for use by the 4-H agent. Phillips got results right away in Hertford County, where P. E. Parker, assistant county agent, is urging each boy in his clubs to ask his father to allot one acre of woodland, regardless of condition, to his son's use for a forestry project. Mr. Parker is then planning to train the boy to apply whatever practices are needed to put the acre into productive condition.

In the Southeastern District, R. S. Douglass concentrated on helping his county agents conduct 69 method demonstrations on tree identification, of which 26 were with Negro clubs in three counties. He helped hold 48 meetings and demonstrations on planting, one of which was a demonstration on the use of a mechanical tree planter available in Bladen County.

In the Northwestern District, W. M. Keller concentrates on 4-H tree planting projects in one to two counties each year. He reports that, as a result, the agents become familiar and experienced enough

to continue the program on their own the following year. The number of trees planted by club members in this district has better than doubled in the last two planting seasons, and the number of club members participating in planting projects has increased over 4 times since 1950-51's planting season.

In the Southwestern District, G. W. Smith helped his agents to hold 73 demonstrations for club members in the fall of 1953. At 42 of these, tree planting was stressed. Smith reports a number of his counties are holding all-day forestry field day programs for 4-H Club and F. F. A. members. For example, a Negro 4-H forestry field day was held in Cleveland County for the first time this year. This was an all-day program featuring talks and demonstrations by Smith and Assistant Extension Forester Ford covering planting, tree identification, timber thinning and the contribution of trees to daily living. Following a picnic lunch, contests in tree identification and tree selection in thinning were conducted and simple prizes presented to the winners. Sixty-two club members attended, and this program was so well received that Negro Farm Agent L. J. McDougale and his local leaders plan to make it an annual event.

Smith also reports on a forestry week program in Polk County when he and Assistant County Agent Bob Flake conducted 11 method demonstrations in planting, attended by 633 4-H Club members. Each club member attending was given a carefully wrapped living pine seedling to take home and plant, together with a seedling order blank and a letter to the club member's parents describing the value of tree planting as a 4-H project. Results of this have already been noticed.

At this time (halfway through the planting season), Polk County 4-H Clubbers have ordered 28,500 seedlings. During the entire 1951-52 season they ordered only 5,000.

In the Western District, F. E. Whitfield reports that the district timber stand improvement contest attracted more entrants in 1953 than in the previous three years. For the first time a girl entered this contest and did such an excellent job that she won the third-place prize. She was Geraldine Smith of the Murphy 4-H Club in Cherokee County. Jerry thinned out an acre of crowded shortleaf pine, removing a truckload of pulpwood, which she sold, and a truckload of firewood. Since then she has assisted some of her neighbors in selecting and marking trees for thinning.

These reports from the district specialists afford the best possible examples of assistance given to county workers during 1953 in 4-H forestry.

G. Personnel Training and Program Planning

In no previous year was so much effort concentrated on training county personnel in forestry extension methods and forestry problems and practices.

Forestry programs were conducted as part of ten regular district meetings of county agents during the year. In December, Extension Forester Gray and State Forester Claridge appeared jointly at four district meetings to discuss working relationships between the North Carolina Division of Forestry and the Agricultural Extension Service. In the Western District, R. A. Vogenberger, district forester, Tennessee Valley Authority, participated, also. Procedure for handling service requests for timber marking and scaling assistance was clearly outlined, and

county-by-county information sheets explaining this service were distributed. One hundred and sixty-four county and district agents were reached.

Each district forestry extension specialist was given a part on the program at his respective district fall training meeting. By and large, they stressed and backed up with charts and trends the need for intensifying forestry programs in the counties. They also explained new projects which should be included in county programs; such as, result demonstrations in hardwood control, expansion of Christmas tree projects, and the like.

Four special forestry schools for training agents in subject matter were conducted during 1953.

Two of these consisted of one training day each. One such school was held in Pasquotank County for county personnel located in the north half of the Eastern District, and the second one was held in New Bern for county agents in the southern part of this district. Programs in both of these schools, attended by 21 county and assistant agents, were as follows:

Indoors

Preservative Treatment of Fence Posts and Farm Timbers -
1½ hours - J. L. Gray

Dinner

Field - (Visits to and demonstration of the following practices)

Selection and Reservation of Seed Trees - J. L. Gray

Use of Ammate in Controlling Hardwoods - J. L. Gray

Use of Tree and Log Scale Stick (demonstration and
exercise) - W. T. Ellison

Growth Rate Determination - J. L. Gray

Timber Sales Procedure - W. T. Ellison

These two schools were well received by the agents attending, many

of them commenting that they had long needed such a training session.

The Champion Paper and Fibre Company volunteered to serve as host for two two-day forestry schools for county agents and 4-H Club assistant agents from counties within their North Carolina wood-procurement territory. A total of 66 agents attended, including two district agents and Assistant Director of Extension R. W. Shoffner. The Piedmont group attended the first two-day session, and the mountain group came in for the second session. The Champion Company lodged both groups at their Y.M.C.A. Camp Hope and furnished them with excellent meals and entertainment.

The program for both of these two-day schools was as follows:

First day

6:30	Breakfast
7:30 - 7:45	Welcome by company officials
7:45 - 8:15	Travel to Canton
8:15 - 10:00	Tour of wood yard
	Wood requirements of Champion mill
	Wood procurement organization
	Supply problems
	Pulpwood specifications
	and scaling practice - J. H. Keener, wood manager
10:00 - 10:15	Break
10:15 - 12:00	Tour of mill
12:00 - 1:00	Dinner at company cafeteria
1:00 - 2:00	Travel to Lake Logan (Champion-owned)
2:00 to 2:20	1953 Planting Program - J. L. Gray
2:20 - 4:00	Tour of plantings of various species - J. Ray Orr, conservation forester, Champion
4:00	Return to Camp Hope
6:30	Supper
7:15	Movie, "Paper Comes to Life" (Champion film)
Recreation	

Second day

6:30	Breakfast
7:30 - 8:00	Economic Importance, Identification and Control of Major Forest Insects - C. F. Speers, forest entomologist, Bureau of Entomology and Plant Quarantine
8:00 - 8:45	Littleleaf Disease of Shortleaf Pine - Otis Cope- land, soil scientist, Bureau of Plant Industry, Soils and Agricultural Engineering

8:45 - 9:00	Break
9:00 - 9:30	Using Wood on the Farm - Walton Smith, forest utilization specialist, Southeastern Forest Experiment Station
9:30 - 10:00	Travel to Oak Wilt infestation
10:00 - 10:30	Oak Wilt Disease - Dr. Jack Boyce, forest pathologist, Bureau of Plant Industry
10:30 - 11:30	Visit result demonstration in woodland grazing - F. E. Whitfield, forestry extension specialist
11:30 - 12:00	Travel to Biltmore Estate
12:00 - 1:00	Picnic dinner
Afternoon - Biltmore Estate	
1:00 - 1:30	Observation and discussion of results of systematic thinning in 54-year-old white pine plantation - W. G. Wahlenburg, silviculturist, Southeastern Forest Experiment Station
1:30 - 2:00	Visit and observe yields on 60-year-old planted white pine - Dillingham, forester, Champion
2:00 - 2:30	Integrated Harvesting - Dillingham
2:30 - 3:00	Seed Tree Cutting Area - Characteristics of Good Seed Tree - J. L. Gray
3:00 - 4:00	Seed tree selection exercise - All staff members
4:00	Return home

Every effort was made to make these two training schools not only informative but enjoyable. A large number of those who attended stated that it was the best training session of their experience.

In addition to these schools, Extension Forester Gray and Assistant Extension Forester Ford conducted a half-day training session for 24 men agents attending the regular "In-Service Training School for New Workers" in June. They also served as part of the instruction staff at a wood preservation short course held in December. This has been described in section IV - C of this report.

A week-long department staff meeting was held in November to train staff members in new forestry techniques and acquaint them with research progress and projects being conducted by the N. C. State School of Forestry. The program was as follows:

First afternoon and second day - Preparation of district annual reports

Third day

- 9:00 a. m. - Assemble in Room 272, Kilgore Hall
9:00 to 9:10 a. m. - Welcoming remarks - Dean R. J. Preston
9:10 to 9:15 a. m. - Purpose of training session - J. L. Gray
9:15 to 10:00 a. m. - Coile's system of site index determination)
Introduction to genetic characteristics) -
Dr. T. E. Maki
10:00 to 10:15 a. m. - Coffee break - Shuttle Inn, Textile Building
10:15 to 10:45 a. m. - Principles of plotless cruising -
Dr. T. E. Maki
10:45 to 11:00 a. m. - Travel to Richland Creek Forest
11:00 a. m. to 12:30 p. m. - Exercise in site index determination
and effect of site variations on growth
of planted loblolly
Application of financial yield tables -
Dr. T. E. Maki
12:30 to 1:30 p. m. - Dinner

- 1:45 to 5:00 p. m. - Richland Creek Forest
Calibration of angle gauges
Basal area determination with angle gauge
Converting factors for pulpwood
Basal area control of thinning operations
according to site index
Converting factors for sawtimber
Basal area control of selective cutting
operations according to site index
Selection of genetically superior trees for
crop tree and seed tree reservation

Fourth day

- 9:00 a. m. - Assemble at Wood Products Laboratory, Western Boulevard
9:00 to 11:00 a. m. - Veneer log grading
Demonstration in veneer log grading
Exercise in veneer log grading
Effect of grade on veneer yield
- Dr. J. S. Bethel
11:00 to 11:20 a. m. - Coffee break
11:20 a. m. to 12:15 p. m. - Room 260, Kilgore Hall
Using television in Extension programs -
Ted Hyman
12:15 to 1:15 p. m. - Dinner
1:15 p. m. - Assemble Room 260, Kilgore Hall
Department business session
7:00 p. m. - Supper at John Gray home, 1201 Brooks Avenue

Fifth day

9:00 a. m. - Assemble Room 260, Kilgore Hall

9:00 to 3:00 p. m. - Travel to and tour Hill Forest to observe
latest research developments

Demonstration - Wilton brush cutter

Handi-girdler

- Professor G. K. Slocum

3:00 p. m. - Go home

This was a very profitable training conference.

Since a number of county agents had expressed a desire to be kept in closer touch with research findings and other factual information, the extension forester inaugurated a monthly one-page information sheet entitled "Farm Forestry Facts," starting in July. Information is confined to one or one and one-half sides of a single sheet of paper. It allows for brief factual messages on one or two timely topics. Topics covered in 1953, were "Costs and Man-Hours in Forestry Operations," "Credit Available from Federal Land Bank," "Marketing Tips - Pulpwood vs. Sawtimber," "Causes of Forest Fires in North Carolina," and "Christmas Tree Marketing in North Carolina."

Copies go to all county agents, district agents, heads of other agricultural and forestry agencies, State College news specialists, and to others who have requested that they be included on the mailing list. They have been used consistently as news and radio releases. They also serve to keep forestry constantly before the eyes of county and district personnel.

Considerable assistance was given to district agent and county extension personnel in planning forestry programs this year. In Western and Southwestern Districts, a suggested county plan of work for 1954 was drawn up and sent to each county agent for consideration with his local leaders. In addition, district specialists in all other districts except the Northwestern visited county personnel to discuss work plans

for 1954 in approximately two-thirds of the counties. A total of 58 counties were definitely assisted with 1954 work plans.

In addition, suggested forestry programs to be included as part of long-range county agricultural "Challenge" programs were drawn up by district specialists and sent to county extension personnel in 50 of the 100 counties this year.

V. Teaching Materials Prepared

The following new publications were prepared in 1953:

A. Folders

"Oak Wilt in North Carolina," J. H. Jensen and J. E. Ford	---	5,000 copies
"Southern Pine Beetle in North Carolina," G. E. Jones and J. E. Ford	-----	25,000 "

B. Mimeographs

"Growth Rate Determination," J. L. Gray	-----	300 "
"Comparison of Five Different Log Rules," J. L. Gray	-----	300 "
"Number of Posts and Pulpwood Sticks per Cord," J. L. Gray	-----	300 "
"Blight Resistant Chestnuts in North Carolina," J. E. Ford	-----	1,500 "
"Suggestions for Developing the Farm Woodland," J. E. Ford	-----	500 "
"Outline of Shade Tree Insects," J. E. Ford	-----	2,000 "
"Recommendations for Christmas Tree Production," W. T. Ellison	-----	300 "

C. Revision

"Outline for Forestry Resource-Use Education," J. E. Ford	-----	2,500 "
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The following new visual aids were prepared or secured for use by staff members in 1953:

"Timber Stand Improvement Flannel Exhibit" (first drawn up by U. S. Forest Service) ----- 100 copies reproduced

Motion picture films:

"Waters of Coweeta" - Purchased from U. S. Forest Service -- 1 print

"When a Fellow Needs a Forester" - Southern Pulpwood Conservation Association produced -- 1 print purchased and 6 prints donated by Champion Paper and Fibre Company, Canton, N. C. One print placed permanently with each district specialist ----- 7 prints

VI. Contributions to National or Regional Extension Forestry Programs

A. National

Extension Forester Gray attended National Farm Woodlot Conference held in Chicago during the summer. This was sponsored by American Forest Products Industries, Inc. Attendance was by invitation only. Gray helped prepare and presented a statement containing suggestions for more effective industry programs with small forest owners and suggestions for a follow-up conference. This statement represented the views of the five extension foresters attending.

Gray appeared on the program at the Fourth American Forestry Congress held by the American Forestry Association in Washington, D. C., in October. Gray delivered a paper entitled "Opportunities for Expanding and Intensifying Forest Management by Small Private Forest Owners."

Upon request, Gray reviewed the manuscript for the federal publication, "Farm Forestry Extension - What It Is and How It Works."

Gray served as member of five-man interim executive committee to draw up a constitution for a proposed National Council of Extension Foresters.

B. Regional

Gray served as chairman of an informal group of southeastern extension foresters. Plans are made to hold a spring meeting of this group in 1954.

VII. Cooperation - The following is a partial list of government agencies,

private industries, civic groups and others who helped advance the extension forestry program in 1953 and with whom extension cooperated in advancing the overall forestry program in North Carolina.

A. Government Agencies

U. S. Forest Service and Agricultural Extension Service, Washington, D. C. - Furnished large quantities of publications on forestry; such as, farmers bulletins, miscellaneous publications, agricultural information bulletins, etc., for use in extension program.

Motion Picture Service, U.S.D.A. - Extension Forester Gray devoted 3 days to assisting with preparation of motion picture film on wood preservation.

U. S. Forest Service, Southeastern Forest Experiment Station - Staff members served as instructors at two two-day forestry training schools for county agents. Research reports furnished to all extension staff members. Extension forester serves as member of advisory committee for Bent Creek Experimental Forest and Piedmont Research Center, Union, South Carolina. Extension staff members report insect and disease outbreaks and send specimens to staff pathologists and entomologists. Station personnel identify and suggest control measures. Extension staff members conducted tour of Edgecombe and Wayne County farmers to Big Woods Branch Station in Franklin, Virginia. Big Woods Branch Station personnel cooperate in keeping records and sample plot data on 154-acre farm forest management demonstration in Edgecombe County.

Tennessee Valley Authority - Furnish free trees to adult and 4-H Club members in 15 Western District counties. County agents promote and publicize program and process applications.

North Carolina Division of Forestry, Department of Conservation and Development - Produce seedlings for distribution to farm owners and 4-H Club members. Extension personnel publicize, promote and place application blanks with farm people.

Through farm foresters and county foresters, offer marking and estimating service to landowners. County agents forward requests for such assistance direct to nearest service forester.

Operate state forestry camp for farm boys. Extension selects 4-H delegates and furnishes part of instruction and counseling staff.

State Forester Claridge appeared on programs at 4 district extension meetings to assist in informing agents on working relationships between the two agencies.

Publications and equipment are freely shared back and forth as needed between personnel of both agencies.

North Carolina State College - School of Forestry - Furnished instructors for training of department staff members. Review new extension publications upon request. Extension staff assists with short courses and enrollment problems upon request. Both groups serve in an advisory capacity to the other on request.

- Farm Management Extension - Extension foresters submit forestry material for overall state outlook statement. Extension foresters assisted with five area meetings for bankers on agricultural credit.

- Agricultural Engineering Extension - Both departments cooperated in holding 15 combination fence post treating-fence construction demonstrations in 1953. Extension Forestry is responsible for preservation and Extension Agricultural Engineering for fence construction phases.

- Extension Entomology - Entomologist collaborated in preparation of folder "Southern Pine Beetle in North Carolina" and in sending out information on forest insect outbreaks in monthly insect report.

- Pathology Extension - Identify specimens upon request. Maintain culturing service for oak wilt specifications. Head of Plant Pathology Department collaborated in preparation of folder "Oak Wilt in North Carolina."

- 4-H Department - Promote forestry project activity in cooperation with Extension Forestry staff. Extension foresters assist with selection of state and district winners and with program at 4-H annual short course.

B. Private Organizations and Industries

Champion Paper and Fibre Company, Canton - Purchased 500,000 white and shortleaf pine seedlings from North Carolina Division of Forestry for free distribution to 4-H Club members through county agents.

Sponsored Western District Timber Stand Improvement Contest for 4-H and F. F. A. members. Gave \$175 in prizes.

Served as host and provided instructors for two two-day forestry training schools for county agents.

Furnished six prints of motion picture "When a Fellow Needs a Forester" to Extension Forestry Department.

North Carolina Pulp Company, Plymouth, N. C. - Purchased 600,000 loblolly pine seedlings for free distribution to 4-H Club members through county agents. All of these were not used in 1953.

International Paper Company, Georgetown, South Carolina - Purchased 498,000 pine seedlings for free distribution to adult landowners through county agents in 39 counties. Extension and this company cooperated in holding forestry field day programs in Chatham and Union Counties.

Camp Manufacturing Company, Franklin, Virginia - Purchased 49,000 pine seedlings for free distribution to adults in Edgecombe and Wayne Counties. Co-sponsor with Extension Service of forestry field day program in Edgecombe County.

North Carolina Forestry Association - Furnish county medals for county 4-H forestry champions. Extension personnel assisted in holding logging equipment show sponsored by this association in 1953.

Sponsor Tree Farm program in North Carolina. Extension personnel write up inspections and Extension Forester serves as member of four-man State Tree Farm Committee which approves awards.

Halifax Paper Company, Roanoke Rapids, N. C. - Purchased 7,500 pine seedlings for free distribution to 4-H Club members in Halifax County through the county agent.

A. T. Griffin Manufacturing Company, Goldsboro, N. C. - Purchased 5,000 pine seedlings for free distribution to 4-H Club members through the county agent. Furnished \$100 as cash prizes for forest planting contest for farm boys in Wayne County. County agent and vocational teachers conduct this contest.

Raleigh Chamber of Commerce, Raleigh, N. C. - Furnish \$300 for awards as sponsor of Wake County Timber Stand Improvement Contest for Farm Boys. County agent and vocational teachers conduct contest. Extension Forester Gray served as chairman of judging committee and assisted with awards tour in 1953.

Wilkes Chamber of Commerce, North Wilkesboro, N. C. - Furnishes \$175 for cash prizes as sponsor of Wilkes County Timber Stand Improvement Contest for Farm Boys. County agents and vocational teachers promote and conduct contest.

Stokes Lumber Company - Stokes County Timber Stand Improvement Contest for 4-H sponsor. Furnish \$100 for cash prizes. Contest supervised by county agent.

Elkin and Mt. Airy Kiwanis Clubs - Sponsor Surry County Forest Planting Contest for Farm Boys. \$200 for cash prizes. County agent supervises contest. Judged by Gray and Keller in 1953.

Charlotte Chamber of Commerce, Charlotte, N. C. - Purchased tree planting machine and gave it to Mecklenburg County farmers. Operation to be supervised by county agent.

Sponsored farmers' day program featuring presentation of planter.

Enka Corporation, Enka, N. C. - Sponsor timber stand improvement contest for farm boys in Buncombe County. County agent supervises and conducts contest. \$50 in cash prizes.

Garr Lumber Company and Silversteen Industries, Brevard, N. C. - Sponsor timber stand improvement contest for farm boys in Transylvania County. County agents and vocational teachers supervise contest. \$75 in cash prizes.

Carolina Chain Saws & Service, Shelby, N. C. - Furnish one-man McCulloch chain saw on permanent loan to Extension Forestry Department for demonstration use.

Lawrence Saw Company, Asheville, N. C. - Furnish one-man McCulloch chain saw on permanent loan for demonstration use.

Homelite Saw Corporation - Furnish two-man power bow saw on permanent loan for demonstration use.

Mall Saw Company - Furnish one-man power chain saw on permanent loan for demonstration use.

VIII. Statistical Summary

Item	Specialist								Totals
	Gray	Ford	Ellison	Phillips	Douglass	Keller	Smith ^{1/}	Whitfield	
Days in office	141.5	176.5	110.0	58.5	170.6	85.0	22.0	80.5	844.6
Days in field:									
Assisting county extension workers	74.5	48.5	114.9	178.6	82.0	106.0	130.0	174.0	908.5
Assisting other government workers	7.8	0.5	3.5	19.2	11.8	10.0	6.0	9.0	67.8
Assisting others	21.8	9.5	41.6	20.2	15.1	29.0	5.0	20.5	162.7
On state-wide or area activities	43.9	44.0	10.0	9.0	11.5	13.0	9.0	8.0	148.4
Total days in field	148.0	102.5	170.0	227.0	120.4	158.0	150.0	211.5	1,287.4
Holidays taken	10.0	9.0	9.0	10.0	8.0	6.0	3.0	10.0	65.0
Annual leave taken	13.0	15.0	24.0	15.5	13.5	16.0	0.0	11.5	108.5
Sick leave taken	1.0	12.5	0.0	2.0	0.5	0.0	0.0	0.0	16.0
Number of office conferences	684	781	25	414	77	349	27	45	2,402
Circular letters:									
No. prepared	22	14	3	0	2	1	19	10	71
No. of copies sent out	18,808	3,236	74	0	52	250	114	242	22,776
Individual letters written	829	1,073	124	247	72	149	163	141	2,798
News articles prepared	8	2	0	4	1	10	22	0	47
Radio broadcasts	2	1	13	15	2	16	27	17	93
Exhibits prepared and shown	0	0	1	7	3	2	8	5	26
Timber scale sticks placed	191	110	0	150	3	65	75	0	594
Literature distributed:									
Bulletins	467	4,169	134	532	195	120	752	1,820	8,189
Folders and circulars	2,008	9,943	2	600	1,017	450		900	14,920
Mimeographs	1,526	8,537	55	3,560	348	200	960	800	15,986
Posters and charts	101	706						575	1,382
Other	21	325			707			30	1,083
Total pieces distributed	4,123	23,680	191	4,692	2,267	770	1,712	4,125	41,560

1/ G. W. Smith returned to position of district specialist, Southwestern District, on April 10, 1953. Was, therefore, employed 7 2/3 months only during 1953 extension year.

2/ Does not include narratives of news value written as part of weekly reports. Does not include circular letters used as news sources by editors.

Statistical Summary (Field Work)

Item	Specialist								Totals
	Gray	Ford	Ellison	Phillips	Douglass	Keller	Smith	Whitfield	
Total number of individual field and indoor meetings at which assistance was given	121	72	60	104	135	101	66	167	826
Total number of individuals attending	4,931	4,012	1,746	3,166	6,176	4,256	5,097	8,434	37,818
Method demonstrations conducted: 1/									
For veterans	1			3		3		2	9
For other adults	34	13	4	51	4	10	28	28	172
For 4-H Club members	6	26	48	30	117	9	61	103	400
For other youth groups	5	7	1	1	1	1	16	28	60
Total method demonstrations conducted	46	46	53	85	122	23	105	161	641
Result demonstrations:									
Established - With adults	3			13		15	3	101	135
With 4-H Club members		3				11	6	232	252
Continued --- With adults	1	4						75	80
With 4-H Club members		6				4			10
Completed --- With adults			1	13		5			19
With 4-H Club members						46		363	411
Indoor meetings conducted: 1/									
For veterans		1	1				5		7
For other adults	45	22	6	11	9	18	3	6	120
For 4-H Club members	16	12			2	59	4		93
For other youth groups	13	29		8		1			51
Total indoor meetings conducted	74	64	7	19	11	78	12	6	271
Number of persons instructed at method demonstrations: 2/									
Veterans	50			70		149		21	290
Other adults	1,572	184	100	1,949	71	392	1,849	806	6,923
4-H Club members	153	1,676	1,411	602	5,831	567	3,822	3,839	17,901
Other youth	368	1,268	60	20	35	10	201	3,196	5,158
Total number instructed at method demonstrations	2,143	3,128	1,571	2,641	5,937	1,118	5,872	7,862	30,272
Number of persons instructed at indoor meetings: 2/									
Veterans		44	34				106		184
Other adults	1,411	689	141	365	179	1,285	91	206	4,367
4-H Club members	948	799			40	2,370	56		4,213
Other youth	420	735		160		32			1,347
Total number instructed at indoor meetings	2,779	2,267	175	525	219	3,687	253	206	10,111
Individual visits:									
To county extension workers	263	74	167	337	214	213	272	269	1,809
Demonstrations	85	17		63	20	24			209
Other farms and farmers	47	97	42	300	159	387	376	210	1,618
Industries and operators	75	17	14	70	41	40	47	13	317
Others	188	102	99	7	72	47		67	582
Total individual visits	658	307	322	777	506	711	695	559	4,535
4-H summer camps at which instruction was given: 2/	1	4	10	2	1	7	4	10	39
Number of counties represented	35	75	28	2	1	12	6	29	188
Attendance at these camps: 2/									
4-H Club members: 3/	35	155	1,117	178	40	475	300	977	3,277
Adult leaders: 3/	8	22	100	40	5	44	28	60	307
Total attendance at camps: 2/	43	177	1,217	218	45	519	328	1,037	3,584

- 1/ Total number of demonstrations and indoor meetings will not agree with "total number of individual field and indoor meetings at which assistance was given" since two or more demonstrations on different practices may be given at a single meeting.
- 2/ Attendance will not equal total shown at top of table. Attendance is reported under each activity demonstrated at a meeting for purposes of determining subject matter coverage and, thus, may be recorded two or more times for the same meeting in items designated with "2/."
- 3/ This data pulled out from previous items shown. Includes state forestry camp for farm boys attended by Gray and Ford only.

IX

Table 1. State Summary of Trees Placed by Extension Personnel
By Districts
1952-53 Planting Season

District	State nursery purchase trees		Pulpwood industry free trees to adults		Pulpwood industry free trees to L-H		T.V.A. nursery free trees to L-H		T.V.A. nursery free trees to adults		Totals		Christmas tree plantings	
	Appli- cations	No. of trees	Appli- cations	No. of trees	Appli- cations	No. of trees	Appli- cations	No. of trees	Appli- cations	No. of trees	Appli- cations	No. of trees	Appli- cations	No. of trees
Eastern	29	34,500	2	1,500	8	11,500					39	47,500	25	26,000
Northeastern	45	71,200	7	50,000	39	65,000					91	186,200	36	32,800
Southeastern	63	225,250	81	297,000	128	221,000					272	743,250	31	47,650
Northwestern	69	109,200	4	7,650	324	436,800					397	553,650	23	24,600
Southwestern	74	200,150	69	191,000	247	286,450					390	677,600	19	29,750
Western	4	2,500					204	171,500	418	1,161,650	626	1,335,650	19	21,500
State totals	284	642,800	163	547,150	746	1,020,750	204	171,500	418	1,161,650	1,815	3,543,850	153	182,300

Table 2. Summary of Trees Placed by Extension Personnel
Eastern District
1952-53 Planting Season

County	State Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to L-H		Totals		Christmas Tree Plantings	
	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees
Beaufort	9	7,000	2	1,500	2	6,000	13	14,500	9	7,000
Camden										
Carteret	3	6,500			1	1,000	4	7,500	3	6,500
Chowan					1	2,000	1	2,000		
Craven	6	4,500					6	4,500	6	4,500
Currituck										
Dare										
Gates	1	1,000			1	500	2	1,500		
Hyde										
Jones	4	5,000			3	2,000	7	7,000	4	5,000
Onslow										
Pamlico	1	1,000					1	1,000		
Pasquotank	3	7,000					3	7,000	2	2,000
Perquimans	2	2,500					2	2,500	1	1,000
Tyrrell										
Washington										
Totals	29	34,500	2	1,500	8	11,500	39	47,500	25	26,000

Table 3. Summary of Trees Placed by Extension Personnel
Northeastern District
1952-53 Planting Season

County	State Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to 4-H		Totals		Christmas Tree Plantings	
	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees
Bertie	1	1,000					1	1,000	1	1,000
Edgecombe	1	1,000	1	5,000	5	41,000	7	47,000	1	1,000
Franklin	2	1,350					2	1,350	1	1,000
Granville	1	2,000	9	9,500			10	11,500		
Greene	4	2,500	1	1,000			5	3,500	4	2,500
Halifax			4	7,500			4	7,500		
Hertford	2	2,000	2	3,000			4	5,000	2	1,000
Johnston	5	4,000	4	3,000			9	7,000	4	3,000
Lenoir	8	6,000	3	7,000			11	13,000	7	5,500
Martin			1	1,000			1	1,000		
Nash	6	3,500					6	3,500	6	3,500
Northampton										
Pitt	4	31,000					4	31,000	3	3,500
Vance	3	8,000	7	11,000			10	19,000	2	7,000
Wake	5	3,850	4	12,000	1	1,000	10	16,850	4	3,300
Warren	1	500					1	500		
Wayne	2	1,500	3	5,000	1	8,000	6	14,500	1	500
Wilson										
Totals	45	71,200	39	65,000	7	50,000	91	186,200	36	32,800

Table 4. Summary of Trees Placed by Extension Personnel
Southeastern District
1952-53 Planting Season

County	State Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to 4-H		Totals		Christmas Tree Plantings	
	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees
Anson	2	7,000	4	7,500	11	40,000	17	54,500	1	1,000
Bladen			10	13,500	2	8,000	12	21,500		
Brunswick	4	2,500					4	2,500	2	1,000
Columbus	2	4,050					2	4,050	2	4,050
Cumberland	2	1,000	11	10,000	7	11,000	20	25,000	2	1,000
Duplin	7	12,200	1	1,000	3	11,500	11	24,700	6	11,000
Harnett	2	1,500					2	1,500	1	500
Hoke	11	115,500	5	3,500	6	23,000	22	142,000	4	4,500
Lee	1	2,000	6	6,000			7	8,000	1	2,000
Montgomery	4	6,000	19	43,000	26	100,500	49	149,500	1	1,500
Moore	5	11,000	22	60,000	9	43,500	36	114,500		
New Hanover	6	17,100			1	5,000	7	22,100	4	7,000
Pender										
Richmond	5	21,500	3	6,500	1	5,000	9	36,000	1	500
Robeson	2	1,150	16	31,500			18	32,650	1	100
Sampson	5	6,500	25	19,500	1	500	31	26,500	3	4,000
Scotland	5	13,250	6	19,000	14	46,000	25	78,250	2	9,500
Totals	63	225,250	128	221,000	81	297,000	272	743,250	31	47,650

Table 5. Summary of Trees Placed by Extension Personnel
Northwestern District
1952-53 Planting Season

County	State Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to h-H		Totals		Christmas Tree Plantings	
	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees
Alamance			2	6,500	1	3,000	3	9,500		
Alleghany	10	29,500	44	146,500			54	176,000		
Ashe	3	1,500	10	11,000			13	12,500		
Caswell	1	1,000	38	24,100			39	25,100		
Chatham	1	2,000	17	45,000			18	47,000	1	2,000
Davidson	2	4,500	15	15,800			17	20,300		
Durham	2	2,000					2	2,000	2	2,000
Forsyth	3	5,000	8	6,500			11	11,500		
Guilford	10	12,700	4	2,550			14	15,250	6	10,100
Orange	1	500	12	12,750	1	500	14	13,750		
Person	1	1,000	8	11,000			9	12,000	1	1,000
Randolph	4	5,000	11	12,400	2	4,150	17	21,550	1	1,000
Rockingham	8	8,000	4	4,000			12	12,000	4	3,500
Stokes	3	3,000	68	46,000			71	49,000	2	1,000
Surry	13	18,500	59	73,500			72	92,000	6	4,000
Wilkes	5	12,500	18	14,900			23	27,400		
Yadkin	2	2,500	6	4,300			8	6,800		
Totals	69	109,200	324	436,800	4	7,650	397	553,650	23	24,600

Table 6. Summary of Trees Placed by Extension Personnel
Southwestern District
1952-53 Planting Season

County	State Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to 4-H		Totals		Christmas Tree Plantings	
	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees
Alexander	2	3,000	11	7,000			13	10,000		
Burke	5	16,000	25	37,000			30	53,000		
Cabarrus	3	8,000	3	2,800	5	18,500	11	29,300	2	5,000
Caldwell	1	3,000	40	30,600			41	33,600		
Catawba	6	19,500	6	9,000			12	28,500	1	1,500
Cleveland	4	10,000	21	33,000	15	36,000	40	79,000	1	6,000
Davie			3	7,000			3	7,000		
Gaston	5	6,000	10	11,500	13	40,000	28	57,500	2	2,000
Iredell	3	4,200	13	16,500	6	18,500	22	39,200		
Lincoln	2	1,000	2	2,000			4	3,000		
McDowell	1	500	10	15,500			11	16,000		
Mecklenburg	4	5,000	12	15,500	13	29,500	29	50,000	2	1,500
Polk	4	6,500	2	1,000			6	7,500		
Rowan	6	3,800	21	18,000			27	21,800	1	250
Rutherford	18	96,050	55	58,550			73	154,600	6	5,500
Stanly	9	14,600	5	8,500	9	20,500	23	43,600	3	5,000
Union	1	3,000	8	13,000	8	28,000	17	44,000	1	3,000
Totals	74	200,150	247	286,450	69	191,000	390	677,600	19	29,750

Table 7. Summary of Trees Placed by Extension Personnel
Western District
1952-53 Planting Season

County	State Purchase Trees		T.V.A. Free Trees to L-H		T.V.A. Free Trees to Adults		Totals		Christmas Tree ^{1/} Plantings	
	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees	Appli- cations	No. of Trees
Avery			57	36,500	24	61,000	81	97,500		
Buncombe			9	10,000	66	93,000	75	103,000	10	13,000
Cherokee			9	17,500	38	308,500	47	326,000	1	500
Clay					47	99,000	47	99,000	5	6,500
Graham			4	8,000	15	12,000	19	20,000		
Haywood	3	1,500	6	4,500	43	42,650	52	48,650	3	1,500
Henderson					64	107,500	64	107,500		
Jackson			6	3,000	21	103,500	27	106,500		
Macon			8	9,000	9	22,000	17	31,000		
Madison			4	3,500	9	15,500	13	19,000		
Mitchell			60	43,500	11	11,500	71	55,000		
Swain			17	11,500	19	111,000	36	122,500		
Transylvania			11	7,500	26	120,000	37	127,500		
Watunga	1	1,000	11	14,500	22	48,500	34	64,000		
Yancey			2	2,500	4	6,000	6	8,500		
Totals	4	2,500	204	171,500	418	1,161,650	626	1,335,650	19	21,500

^{1/} Includes all farm plantings listed on T. V. A. report as "Miscellaneous Species."