# NORTH CAROLINA

**AGRICULTURAL EXTENSION SERVICE**

# ANNUAL REPORT

**FOR**

# 1951

Period covered December 1, 1950 to November 30 1951

Name of Project Farm Forestry Extension Work

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

John E. Ford, Assistant Extension Forester

Forestry Extension Specialists (see page 4 in report)

Percentage of time devoted to project 100.

Date Submitted: _____, 195__. Signed: _____
Project Leader

Date Approved: _____, 195__. Signed: _____
Asst. State Director of Extension Work

Date Approved: _____, 195__. Signed: _____
Director of Extension Work, U. S. Department of Agriculture

# ANNUAL REPORT

# FARM FORESTRY EXTENSION WORK

# NORTH CAROLINA

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December 1, 1950 - November 30, 1951, Inclusive

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

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David S. Weaver, Director

N. C. Agricultural Extension Service
N. C. State College of Agriculture and Engineering
of the University of North Carolina
and
U. S. Department of Agriculture, Cooperating

State College Station
Raleigh, N. C.

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# Farm Forestry Extension - Summary of Accomplishments - 1951

1951 was a record year for forestry field demonstrations. The eight forestry extension specialists of the North Carolina Agricultural Extension Service participated in 1,042 outdoor meetings on forestry in cooperation with county agents and, through them, other agricultural workers. An additional 274 indoor meetings were held. Total attendance was 44,364 farmers, 4-H Club members and others.

Forestry extension specialists made 1,505 farm visits to advise farmers and 4-H Club members on forest problems, practices and projects. They contacted 308 timber operators and industrial foresters to gather market information and plan combined efforts to improve cutting practices and marketing methods.

As in past years, the planting of forest trees on farms was emphasized in the forestry program. As a result, extension personnel placed 3,692,650 tree seedlings with 2,049 farmers and 4-H Club members.

In the Coastal and Piedmont counties interest was high in methods of treating fence posts with preservatives. Attendance averaged 83 persons at 69 field demonstrations held in this activity. One particularly popular feature was the operation of a cheap efficient debarking machine built for demonstration use by the forestry extension staff. A number of vocational agriculture teachers, after attending these demonstrations, built similar machines for community use on a custom basis.

Forestry extension personnel intensified efforts to secure the adoption of cutting practices designed to yield a profitable present-day harvest and, at the same time, keep the woodland producing. Improved cutting methods were featured at 379 field meetings and 118 indoor meetings. Eighty-nine result demonstrations intended to serve as outstanding examples of good forest management were established in 1951. 869 farm visits were made to examine the woodland with the farmer, sell him on better cutting and management practices, and show him how to get the job done. Similar activity was carried on in timber estimating and marketing methods.

Forestry extension specialists assisted county agents with holding 552 field meetings and 55 indoor meetings to train 4-H Club members in forestry. A total of 18,900 club members received such instruction in 1951. An additional 10,000 4-H'ers received forestry instruction from county agents without the assistance of a forestry specialist. Forestry extension specialists assisted county agents in 16 counties to plan and conduct forest planting and timber stand improvement contests for farm youth sponsored by local industries and civic organizations. Forestry extension specialists served as forestry instructors at 8 county encampments attended by 4-H'ers from 14 counties and two state-wide forestry and conservation camps.

Immediate results of these efforts were that 2,350 club members carried out and completed forestry projects in tree study, protection, timber stand improvement and planting involving 4,222 acres of land. This was a 42% increase over 1950 in the number of completed 4-H projects. 1,214 club members in 76 counties planted 1,171,825 forest tree seedlings in 1951. Although the total number of trees planted was approximately the same as in 1950, the number of 4-H Club members planting trees increased 30%.

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FARM FORESTRY EXTENSION WORK

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## I Introduction and Background

North Carolina's farm forests are a very important part of the overall farm and forest economy of the state. Woodland makes up 52% of all farm acreage. These forests supply a large amount of material used in farming - fuelwood for heating, cooking, and curing bright-leaf tobacco, lumber for farm buildings, fence posts, poles, and timbers.

Farmers own 48 1/3 per cent of all forest land in North Carolina and, taken together, own more forest land than any other ownership class. The wood-using industries, which rank second in number of persons employed in manufacturing in this state, depend on farm woodlands for a large percentage of their raw materials. Farmers receive considerable income ($9,874,357 in 1949) from the sale of forest products and standing timber. Markets, generally speaking, are available over most of the state for all types of material except certain hardwoods and low-quality hardwoods.

Farm forests also perform other valuable functions in controlling erosion, equalizing stream flow, and providing food and shelter for wildlife.

Farm forests, in general, have suffered more from mismanagement, or a total lack of management, than any other segment of the farm enterprise.

As a result, over the years, they have been seriously depleted of desirable growing stock.

Today, on the average, farm forests are producing at about one-third of their maximum capacity. In 1949, the average farm woodland acre yielded $1.00 worth of products for sale and an additional $0.25 to $0.50 worth of products for home use. At the same time farm woodland acres in fully productive condition receiving fair management were growing, per acre per year, $3.75 to $9.50 worth of products for sale and additional material for home use.

The change-over from one-third production to full production on farm woodland acres in North Carolina requires little investment of cash. Labor during the fall and winter is one requirement. The second is the application of good judgment in carrying out such practices as the planting of idle and thinly stocked woodland, the removal of cull and crowded trees for home use or sale, protection from fire and livestock, the harvesting of mature trees so as to reserve adequate growing stock or seed trees to establish a new crop, and the adoption of businesslike marketing methods to secure the highest possible prices from sales.

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

Farm forestry extension personnel assist county agents and, through them, other agricultural workers and local leaders to plan and conduct forestry programs in the individual counties with the following objectives in mind:

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 compared with 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 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.

The balance of this report will be devoted to showing what farm forestry extension personnel did during the 1951 program year to 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: There are six extension districts with a forestry extension specialist assigned to each district, as follows: See Map I.

Eastern District - W. T. Ellison, Jr., Washington. Mr. Ellison was appointed January 1, 1951, to replace W. G. Kelley, who was ordered back into military service.
Northeastern District - J. C. Jones, Nashville
Southeastern District - R. S. Douglass, Clinton
Northwestern District - W. M. Keller, Winston-Salem
Southwestern District - G. W. Smith, Charlotte
Western District - F. E. Whitfield, Asheville

Each district forestry extension specialist is responsible for assisting county agents in his district to develop and conduct forestry extension programs and for answering requests for information and assistance. State-level specialists assist, guide, and train the district specialists in carrying out their duties.

## IV Major Activities and Accomplishments

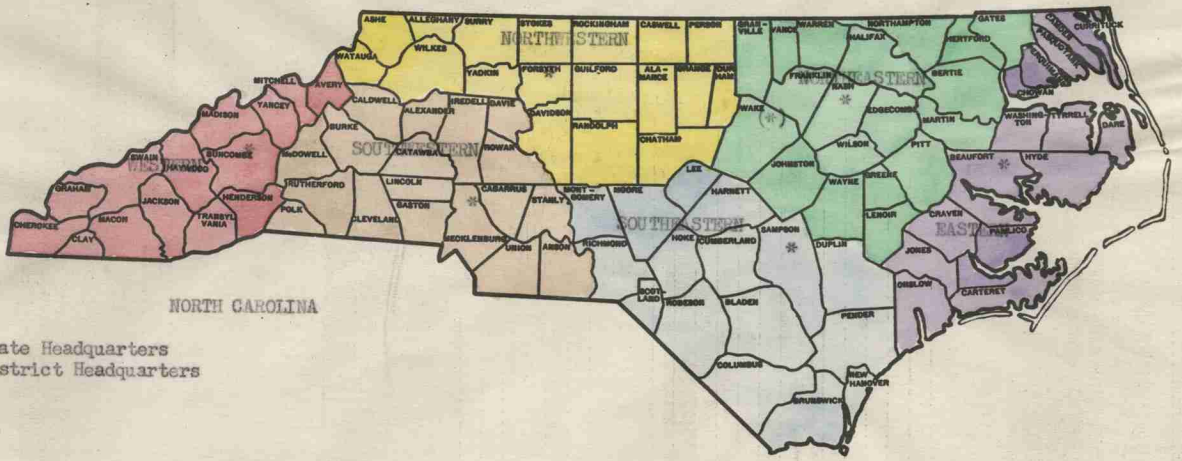
### A. Forest Planting

1. Planned Goals Achieved - The 1951 Plan of Work called for 1,300 adult farmers to plant 3,250,000 tree seedlings on idle, eroding, and cut-over land as a result of the combined efforts of county agents and farm forestry extension specialists.

The record shows that personnel of the Agricultural Extension Service placed with 938 adult farmers a total of 2,534,500 tree seedlings.

Map I

## Extension Districts
## Showing Territory Assignments and Headquarters
## for Forestry Extension Specialists




NORTH CAROLINA

(*) State Headquarters
* District Headquarters

The 1951 Plan of Work called for 1,000 4-H Club members to plant a total of 1,250,000 tree seedlings.

The record shows that 1,111 club members planted a total of 1,158,150 tree seedlings.

Thus, the Agricultural Extension Service placed with 2,049 adult farmers and 4-H Club members a total of 3,692,650 tree seedlings. Compared to 1950, the number of farmers and 4-H Club members applying for trees through the Extension Service increased by 16. Number of trees placed decreased by 517,200. There is no logical explanation for the decrease in the number of seedlings placed. Weather during the planting season was relatively severe. This may have been a contributing factor. Regardless of the decrease, Extension Service personnel were responsible for placing 65% of the 2,809 applications received by the public nurseries from farmers and 58% of the 6,325,225 trees ordered by farmers.

The following is a list of the various sources of tree seedlings placed by Extension personnel:

| Source | Number of Applications | Number of Trees Ordered |
|---|---|---|
| Tennessee Valley Authority (Adult) | 530 | 1,418,100 |
| N. C. Division of Forestry (Purchased) | 313 | 814,000 |
| International Paper Company (Adult) | 95 | 302,400 |
| North Carolina Pulp Company (4-H) | 468 | 606,600 |
| Champion Paper & Fibre Company (4-H) | 206 | 275,350 |
| Halifax Paper Company (4-H) | 7 | 7,000 |
| A. T. Griffin Manufacturing Company (4-H) | 4 | 8,000 |
| Tennessee Valley Authority (4-H) | 224* | 261,200 |
| Totals | 1,847 | 3,692,650 |

*Number of club members planting was 410 from this source. In Mitchell County individual orders from 210 club members were pooled and sent in on 8 club application blanks.

Christmas tree plantings are included in the above list. Taken separately, extension personnel placed with 67 farmers and 4-H Club members a total of 84,600 red cedar seedlings in 38 different counties.

2. Extension Methods and Teaching Devices Used - Application blanks, price lists of trees available from the North Carolina Division of Forestry nurseries, and a letter explaining details on free-seedling offers to adults and 4-H Club members were sent to all county agents in the early fall. Monthly reports showing progress by counties in placing free trees with 4-H Club members and adult farmers were sent to county extension personnel in counties concerned. Copies of these reports also went to the extension editor, who released them in story form to the radio and press at regular intervals. Copies were also sent to the district agents and to 4-H specialists. They used them to encourage agents to push the program in the counties.

Farm forestry extension personnel assisted county agents with holding 219 field planting demonstrations and discussed planting at 29 indoor meetings. They also helped county agents establish 12 new result demonstrations in planting. They prepared seven news articles; 20 circular letters, with 1,232 copies being sent out; and five fair exhibits. They took part in 14 radio broadcasts and visited 211 farmers and 4-H Club members to advise them on planting.

In cooperation with the Forestry Relations Division of the Tennessee Valley Authority a set of 16 colored slides on tree planting sites and planting methods was prepared by Assistant Extension Forester J. E. Ford. Duplicate sets were placed with forestry extension specialists in the three western districts. All personnel were equipped with

planting tools for use in holding field demonstrations.

The finest possible cooperation was received from the pulp and paper companies and from one lumber company, who made it possible to offer seedlings free of charge to 4-H Club members all over the state and to adult farmers in 38 counties. Altogether they purchased a total of 1,199,350 tree seedlings from North Carolina Division of Forestry nurseries for free distribution through the Agricultural Extension Service.

The extension forester contacted personnel of the North Carolina Division of Forestry almost weekly during the planting season to keep informed on the available supply of the different species. Applications from 4-H Club members for free seedlings came to the extension forestry office directly for listing and for preparation of progress reports. The applications were then transmitted to the state forester. In the Western District, where free trees are available to landowners from the T. V. A. nursery at Norris, Tennessee, county agents approved all farmer applications before sending them on for processing. The district forestry extension specialist kept in close contact with T. V. A. foresters as the season progressed to check on distribution and supply.

3. Cooperation with Other Agencies

a. North Carolina Division of Forestry

(1) Purchase trees - The North Carolina Division of Forestry operated two nurseries where trees were grown for sale. This organization furnished copies of price lists and application forms with credit line mimeographed giving the Extension Service credit for promoting tree planting with farmers.

The extension forester distributed these to county agents, who with assistance of forestry extension specialists promoted planting on farms and encouraged farmers to apply for trees. The North Carolina Division of Forestry on receipt of these applications arranged for distribution.

(2) Free trees - This organization grew trees in their two nurseries which were purchased by paper companies and others for free distribution through the Extension Service. This organization on receipt of applications through the extension forester arranged for distribution.

(3) Custom planting service - This organization operated two tree planting machines on a custom basis. The extension foresters and county agents publicized this service and referred suitable requests to this organization.

(4) This organization furnished trees free of charge for use at field demonstrations upon request.

b. Tennessee Valley Authority - Furnished free seedlings for distribution to farmers and farm youth in Western District counties. Extension Service personnel cooperated by promoting tree planting through publicity, meetings, and demonstrations, by advice and instruction to individual farmers, and by approving all farm applications. Trees for farmers were delivered by truck periodically to county agents, who notified farmers to pick them up and, in many cases, delivered trees personally to the farm.

T. V. A. foresters also assisted upon request of county agents in advice and instruction to farmers when forestry extension specialist was not available.

c. Soil Conservation Service - Field men cooperated by recommending planting on land best suited to trees. Extension Service personnel advised S. C. S. personnel on planting practices and distribution policies.

d. Vocational Teachers - Extension foresters assisted vocational teachers in holding 32 demonstrations and meetings on planting for veterans on-the-farm trainees and vocational agriculture students. Attendance at these meetings was 718. Extension personnel also furnished planting literature in considerable quantities.

e. U. S. Forest Service - Furnished copies of Farmers' Bulletin 1994, "Tree Planting in the Central, Piedmont, and Southern Appalachian Regions."

f. North Carolina Pulp Company, Plymouth, N. C. - Furnished 599,600 loblolly pine seedlings, 2,000 longleaf pine seedlings, and 5,000 slash pine seedlings, which extension personnel distributed free of charge to 4-H Club members in eastern North Carolina. (See table in Appendix.)

g. Champion Paper & Fibre Company, Canton, N. C. - Furnished 54,500 shortleaf pine seedlings and 220,850 white pine seedlings, which extension personnel distributed free of charge to 4-H Club members in piedmont and western counties outside of the Western District. (See table in Appendix.)

h. International Paper Company, Georgetown, S. C. - Furnished 263,400 loblolly, 21,500 longleaf, 12,000 shortleaf, 5,000 slash, and 500 white pine seedlings, which county agents distributed in fourteen counties. (See table in Appendix.)

i. A. T. Griffin Manufacturing Company, Goldsboro, N. C. - Furnished 8,000 pine seedlings for distribution by Wayne County agent to 4-H Club boys in Wayne County.

j. Halifax Paper Company, Roanoke Rapids, N. C. - Furnished 7,000 pine seedlings for distribution by Halifax County agent to 4-H Club members in Halifax County.

B. Forest Management

Although this is a very broad term, it will apply here to activities carried out primarily to improve cutting practices on farm woodlands. Activities reported by specialists under the heading "General Management" will also be covered.

1. Extent that Planned Goals Were Achieved - The following is a list of forest management program accomplishments by forestry extension specialists during the year. Where goals were set for that particular activity in the 1951 Plan of Work, figures are included in the column "Planned, 1951." Activities are listed covering the following practices: timber thinning, timber stand improvement, selective cutting, pruning, and general management.

| | Planned 1951 | Accomplished 1951 |
|---|---|---|
| Method demonstrations held | | 379 |
| Tours and indoor meetings held | | 118 |
| Total | | 497 |
| Attendance at demonstrations, meetings, and tours | | 15,978 |
| Result demonstrations established | | 89 |
| Management plans prepared on demonstration farms | 50 | 22 |
| Number of farmers to adopt improved management practices, particularly cutting methods | 10,000 | 9,665* |
| Visits to individual farms and farmers to make woodland examinations and management recommendations | | 869 |

| | Planned 1951 | Accomplished 1951 |
|---|---|---|
| Exhibits prepared and shown | | 18 |
| Radio programs and news articles prepared- | | 55 |

*From county agents' reports. Figure represents number of farmers assisted in carrying out improved cutting methods.

2. Extension Methods and Teaching Devices Used - Methods used by farm forestry extension personnel in convincing farmers that systematic cutting at frequent intervals results in higher farm income than destructive cutting did not vary appreciably from activities in this phase of the program in 1950. Three extension methods were primarily employed. An especially effective illustration of each is listed below:

a. Tours and Field Demonstrations - Negro farm timberland owners in Hertford County were conducted on a tour of the Big Woods Experimental Forest near Murfreesboro in the early part of the program year. This was the first time in many years that a farm group had been conducted on a tour of this North Coastal Plain Branch Station of the Southeastern Forest Experiment Station. All who participated felt that this tour was an outstanding success, and several other similar tours have been planned and carried out as a result.

Melvin Johnson, Negro county agent for Hertford County, sent out a very attractive announcement letter; and, as a result, 46 Negro farmers, older 4-H Club boys and F. F. A. members assembled at the forest entrance about 10:00 a. m. Extension specialists, research personnel, and personnel of Camp Manufacturing Company, Franklin, Virginia, were introduced.

The first stop was made at the site of a seed tree cutting made several years ago. Extension Forester Gray emphasized the

importance of leaving seed trees in harvesting mature timber. Robert D. McCulley and Kenneth Trousdell then brought out results learned on the particular area. They stressed facts on number of seed trees needed per acre, seed production habits, effects of land preparation - such as, burning or disking ahead of seed fall - on germination, number of seed required to produce one seedling under different ground cover conditions, and future activities in girdling and poisoning planned to bring the new crop through the hardwood sprouts and larger trees.

The next visit was to a strip cutting study. Since, in general, this practice is not applicable to farm woodlands, main emphasis here was devoted to the results of a controlled fire which had been applied following cutting.

Nearby, Mr. McCulley had marked a young old-field pine stand for a thinning operation removing approximately 5 cords of pulpwood. N. T. Barron, forester for Camp Manufacturing Company, emphasized that his company was ready and willing to mark and buy pulpwood from farmers in Hertford County on the same basis. J. C. Jones, district forestry extension specialist, then demonstrated how to select trees which needed cutting. Gray followed this by conducting a take-and-leave contest using numbered trees and contest cards.

Following this contest a barbecue dinner furnished by the Camp Manufacturing Company was served at the hunt club shack on the forest.

Jones and Gray then demonstrated the use of a two-man power bow saw and a hand bow saw in felling and bucking logs and pulpwood.

A crosscut sawing contest was then held. Prizes furnished by the Camp Manufacturing Company were then awarded by Melvin Johnson to winners in the thinning contest and the sawing contest.

Jones and Gray then cut a standing pine into post lengths, peeled off the bark, and treated the posts by the osmose process.

Although it had been raining and getting progressively colder since the start of the tour, those attending were still very much interested and were firing questions at the discussion leaders and taking part in the contests with enthusiasm at the close of the program.

b. Result Demonstrations - A result demonstration established in woodland owned by Mr. Eben Wallace of Troy, in Montgomery County, is an example of an effective method of bringing out in dollars and cents, income which can be earned through the employment of farm labor and modern equipment in the winter months.

Mr. Wallace's 25-year-old old-field stand of loblolly pines is located on a black-topped highway known as the old Troy-Candor road. It is separated from the highway by an open strip of idle land about 100 feet in width.

In January, one acre in the old-field stand was measured off and marked for a thinning operation. A forestry field day was held at this spot and, following the field day, Extension Forester Gray, District Forestry Extension Specialist R. S. Douglass, County Agent A. M. Garriss, and Assistant County Agent R. H. Wesson finished up cutting the 454 marked trees on the measured acre. Each tree was cut into 5-foot lengths of pulpwood until the minimum diameter of

4 inches inside bark was reached. The remainder of the stem was then cut into 7-foot fence-post lengths down to a minimum diameter of 2½ inches. Thus all harvested trees were closely utilized.

The Troy vocational class received instruction in pulpwood and fence post specifications and marketing procedure on the following day. They then stacked the pulpwood and posts in separate piles so that the harvest could be measured.

A two-man power bow saw was used for felling and bucking. A record was kept of all labor time and operating time for the saw plus gas and oil consumed. A depreciation allowance of 50 cents per hour was charged to harvesting expense for each hour of power saw operation.

Four and eight-tenths cords of pulpwood and 600 fence posts were cut from the demonstration acre. The roadside value of this material was $83.40. Costs of chain saw operation plus depreciation totalled $9.25. This left a net return of $74.15 for 46½ man-hours of labor or wages of $1.61 per hour for off-season employment. Four hundred fifteen straight, thrifty trees were left to grow to larger size for future harvests.

A one-page report was mimeographed listing the facts and figures on this project. Copies were sent to all local leaders, plus members of the Troy vocational class and local newspapers.

Mr. Wallace has planted the strip of open land to loblolly pines. He has thinned the remaining ten acres of 25-year-old pine. A sign will be placed at the side of the road stating what has been done and the returns received per acre.

County Agent Garriss reports that considerable interest has been built up as a result of this demonstration. In time a considerable number of well-thinned young pine stands will show up in this section of Montgomery County.

c. Individual Farm Visits - Farm forestry extension personnel assisted county agents in visiting over 800 farms to examine the woodland involved, make needed recommendations, and train the farmer in carrying them out. Where the farm woods is to be used for demonstration purposes, a simple management plan is often drawn up with the owner.

I V. Arthurs, of Route 2, Mooresville, in Iredell County, is one farmer who has benefited immensely from following such a management plan. Mr. Arthurs has been a member of the Balanced Farming Association in that county for the past three years.

In 1950, Ralph Shepherd, Balanced Farming agent, and George W. Smith, forestry extension specialist, Southwestern District, visited Mr. Arthurs to help him work out a woodland management plan.

At the time of their visit Mr. Arthurs was a shade-tree dairy farmer struggling along to make a bare living. He had a 15-cow dairy herd in poor condition due to the fact that his land fertility was too low to produce highly nutritious silage or pasture. He did not have one acre of improved permanent pasture. His only source of hay was a 2-acre field of alfalfa and lespedeza.

Mr. Arthurs knew that his farm needed revamping - new buildings and equipment, improved permanent pasture, the use of more and better fertilizer to increase his yields of corn and small grain. However,

it is hard to find much cash to invest in improvements when you are trying to support a family on $2,000 per year.

Mr. Smith, Mr. Shepherd, and Mr. Arthurs examined Mr. Arthurs' woods carefully. They found he had some mature timber ready for a heavy final harvest plus an area of 40-year-old shortleaf pine which needed a selective cutting operation to improve the growth rate and quality of the stand.

They helped Mr. Arthurs to draw up a simple plan of action to harvest and sell trees ready for cutting and at the same time reserve enough growing stock to keep his forest land productive.

Since 1950, he has harvested about 300,000 board feet of sawtimber on a stand improvement basis. The income received from the sale of this timber has put him on his feet. He has built and equipped a 12-stanchion grade A milking room. He has increased the size of his herd, and his milk check is three times what it was in 1950. He has sowed 20 acres of permanent pasture. His corn and small grain yields have more than doubled.

He has carried out recommendations in his woodland management plan to the letter. His farm timber, intelligently handled, has been the basis for putting his whole farm into fully productive condition capable of making it possible for him and his family to enjoy a much higher standard of living.

3. Cooperation Given and Received from Other Agencies

N. C. Division of Forestry - Requests received from farmers and others involving personal service work in marking and scaling timber were turned over to this agency for handling.

Production and Marketing Administration - Extension forester served on state committee to write up specifications on forestry practices to be listed for conservation payments in the state handbook.

U. S. Forest Service - Furnished bulletins, charts, and other publications on farm forest management.

U. S. Forest Service, Southeastern Forest Experiment Station - Cooperated in conducting tours for farmers on three experimental forests in the state. Have furnished much valuable information relative to farm forest management to extension personnel.

School of Forestry, N. C. State College - Extension forester conducted tour of farm forest for forest management class.

Resident teaching staff and research personnel have assisted by furnishing information upon request.

Vocational Agriculture - Extension foresters, through the county agents, held 87 field demonstrations for veterans farm trainees featuring management practices and put on 36 programs at veterans class meetings. A total of 3,890 veteran farm trainees attended these meetings and demonstrations.

Extension foresters held 42 field demonstrations on management and put on programs at 7 indoor meetings for vocational agriculture classes. A total of 2,348 vocational boys attended and received instruction.

A number of individual schools were assisted in securing and setting up school demonstration forests under the supervision of the vocational teacher.

N. C. Forestry Association - Sponsors Tree Farm program in North Carolina honoring landowners who have done outstanding jobs in managing their

woodlands over a definite time period. Extension forestry personnel write up inspection records on potential holdings. State extension forester served on state Tree Farm committee, which passes on all inspections. Extension personnel assisted in planning appropriate ceremonies for presenting awards to landowners inspected by them and approved. International Paper Company, Champion Paper and Fibre Company, North Carolina Pulp Company, Camp Manufacturing Company - These firms cooperated in sponsoring a number of field day programs, furnishing prizes for contests held at such programs, and paying for refreshments served. They also, upon request, furnished foresters who assisted with instruction at these field days.

C. Estimating, Marketing, Harvesting, and Utilization

These four activities represent a most important phase of the farm forestry extension program because they deal with increasing present-day cash income rather than future income.

1. Goals Achieved - The following is a statistical summary of accomplishments of farm forestry extension personnel in these fields during the program year. Where the particular item was set up as a goal in the 1951 farm forestry extension Plan of Work the appropriate figure is listed in the column "Planned, 1951."

| | Planned 1951 | Accomplished 1951 |
|---|---|---|
| Method demonstrations held | | 178 |
| Tours and indoor meetings held | | 40 |
| Total | | 218 |
| Attendance at demonstrations, meetings, and tours | | 12,151 |
| Result demonstrations established | | 8 |
| Industries and operators assisted or contacted for market information | 270 | 308 |
| Visits to farmers and other landowners to give advice or instruction | | 289 |

| | Planned 1951 | Accomplished 1951 |
|---|---|---|
| Exhibits prepared and shown | | 0 |
| Radio programs and news articles | | 0 |
| Number of farmers to follow improved methods of timber scaling, harvesting, and marketing | 8,000 | 3,458* |
| Number of scale sticks to be prepared for distribution | 2,500 | 2,500 |
| Number distributed | | 247 |

2. Extension Methods and Teaching Devices Used

a. Timber Estimating - Efforts in this activity were greatly benefited by the delivery of 2,500 tree and log scale sticks late in the program year. Extension foresters were able to distribute these sticks to timber owners attending timber scaling demonstrations at a cost to the owner of 15 cents apiece.

Forestry extension specialists assisted county agents in holding 65 field demonstrations and 8 indoor meetings in tree estimating and log scaling. In addition, they made 134 farm visits to train farmers in using the scale stick to make an accurate estimate of the volume before selling standing timber.

An example of what this may mean in income to the farmer is reported by J. C. Jones, forestry extension specialist, Northeastern District. A farmer in his territory had 4 acres of old-growth timber ready to sell. He told his son that he thought he could get $1,500 for it. The son contacted Mr. Jones. Mr. Jones spent a day training the son to use a scale stick in measuring each individual tree. The son finished up the job. Knowing the volume he had to

* This figure represents total number of farmers assisted in timber estimating and appraisal and forest products marketing by county agents in 90 different counties during the year. The individual assistance work of farm forestry extension personnel is included with this total.

sell, the farmer called in enough buyers to set up competitive bidding and sold his timber on 4 acres for $6,000.

Still another example is that of John Hamrick of Route 3, Shelby in Cleveland County. Mr. Hamrick, a veteran, was a factory worker who bought a 52-acre farm and went into farming to improve his health. This farm contained a 31-acre tract of timber, and several sawmill operators began to make him offers for the timber. The highest offer received was $2,000.

Mr. Hamrick had a number of debts to settle; and he contacted Mr. Howard Clapp, Cleveland County agent, for advice on selling his timber. Mr. Clapp called in Mr. G. W. Smith, forestry extension specialist, Southwestern District, for help.

In examining this tract with Mr. Clapp and Mr. Hamrick, Mr. Smith found that it contained a considerable number of trees that were making very satisfactory growth (4% per year and up). Others were obviously ready to harvest.

Mr. Smith and Mr. Clapp taught Mr. Hamrick and his brother Ralph to mark and measure those trees which were ready for sale. After Mr. Hamrick and his brother finished the job, Mr. Smith checked the marking and found that a good job had been done.

Mr. Smith went over the provisions of a sample sales contract with Mr. Hamrick. Mr. Hamrick then invited buyers to examine the tract and submit sealed lump-sum bids for the 125,000 board feet which was marked.

Mr. Hamrick sold the marked trees to the Edwards Brothers Lumber Company of Charlotte for $3,750. He paid off all his debts

except for a Federal Land Bank loan. The money left over enabled him to buy 8 cows and fence in 14 acres of pasture.

These two cases are prime examples of what farm forestry extension personnel are accomplishing in the timber estimating phase of the program.

b. Marketing of Timber and Timber Products - Farm forestry extension specialists assisted county agents in holding 7 meetings on marketing methods, specifications and prices of forest products, etc. The bulk of the work in this activity was carried out by visits to 308 timber buyers and operators to gather market information, discuss methods of measurement and prices. In addition, specialists visited 88 farms to give advice and information to the owner on selling standing timber and forest products.

One contact with a timber operator illustrates clearly what a forester, county agent, farmer, and sawmill operator can do when they work together.

Mr. Allen Collins of Route 1, Monroe, in Union County, is a successful farmer and business man. He had become convinced that he would benefit from working out a plan in his farm woodland that would enable him to harvest and market timber at regular and frequent intervals.

Vernon Wall of the Monroe Lumber Company had spoken to Mr. Collins several times about the possibility of buying some of his timber. Mr. Collins recognized that, if properly handled, a timber sale could improve the growth rate and quality of his timber. He talked over the possibilities of a partial harvest with Mr. Wall and his mill operator, Mr. Bob Hinson. They contacted James Marsh,

Union County agent.

Mr. Marsh called on the district forestry extension specialist, G. W. Smith. Mr. Smith and Mr. Marsh looked over the timber tract carefully with Mr. Wall, Mr. Hinson and Mr. Collins. Mr. Smith recommended that about 40% of the timber volume should be harvested.

Mr. Smith then marked five acres with the mill operator, Bob Hinson. Mr. Hinson caught on quickly to the marking procedure. Mr. Hinson marked the remaining 25 acres by himself. Mr. Wall and Mr. Collins got together on a price for the marked trees. Mr. Hinson and his crew then logged the area, cutting only the marked trees.

Mr. Hinson was particularly proud of the appearance of the woods when he got through logging it. He and Mr. Wall looked it over carefully. They were so well pleased that Mr. Wall decided his company should go all out to improve cutting and marketing practices.

Since that time Mr. Smith has helped Mr. Wall train three other mill operators who ship their output to Monroe Lumber Company. These loggers sell good marketing practices to landowners. If the landowner is interested, they will mark trees on a sample area in his woods. If he approves, they then work the remainder of the area.

When the owner approves the entire marking job, they ask him to get prices on a marked-tree basis from competing operators. Mr. Wall will pay the average price of all bids received and guarantee to cut only the marked trees.

Mr. Wall has since bought eight tracts of timber marked by his own loggers. Further, he has worked out a program whereby his

logging crew works the tops of trees cut for logs into pulpwood. This puts more money in the owner's pocket, reduces the fire hazard, and uses material which would otherwise be wasted.

c. Harvesting - Specialists helped county agents to conduct 38 field demonstrations and 9 indoor meetings attended by 2,823 farmers and sawmill operators in the use of modern up-to-date equipment for harvesting forest products.

Three companies have placed one-man power bow saws on permanent loan with this department. Two of these saws are used by district personnel and one by state-level specialists. Demonstrations in chain saw operation and preventive maintenance are carried out at regular field demonstrations in timber thinning, timber stand improvement, etc.

This year all district specialists were equipped with Swedish bow saws, filing kits, and explosive wedges and trained in the use of these tools. Assistance available from forestry extension specialists in holding demonstrations in bow saw operation and filing and the use of the explosive wedge was listed in the "Outline of Project Plans for 1952." This outline will be used by county agents in drawing up their 1952 county plans of work.

d. Utilization - Major efforts in this phase were concentrated on the preservative treatment of fence posts.

In February, the extension forester with the assistance of the Woodshop superintendent, Mr. Puckett, built a slack-chain post peeling machine. The construction details were based on a plan first drawn up by the Forest Utilization Section of the Tennessee

Valley Authority. However, the machine was a greatly simplified version of the T. V. A. plan. Total cost for materials was $23.00. The machine was designed with a flat-rim pulley so it could be powered by a flat belt connected to the power take-off pulley of any farm tractor.

A treating tank made out of three fifty-gallon oil drums was loaned to Extension by the School of Forestry along with a fifty-gallon drum of 5% Pentachlorophenol. All this equipment was hauled in a panel-type delivery truck owned by the Extension Service.

During the program year 69 field demonstrations were conducted, and post treating was discussed at 22 indoor meetings. Total attendance at these meetings was 6,673 persons. Interest was very high.

These demonstrations were generally conducted as follows:

County agents arranged for a tractor and belt plus half a dozen or more rough green posts. The meeting generally was opened with a discussion by the county agent of the rapid expansion in adding livestock and seeding permanent pasture. This, of course, calls for a supply of durable, yet inexpensive, fence posts.

The forestry extension specialist then discussed the availability or non-availability of native durable posts. He then explained the advantages and disadvantages of different methods of treating and preservatives used commercially. Hand-peeling methods using a drawknife and a hoe were generally demonstrated. This was followed by a machine-peeling demonstration and an explanation of the details of building the chain peeler.

Steps in piling peeled posts for rapid air-seasoning followed. The peeled posts were then loaded into the treating tank and treating procedure simulated, including information on soaking periods for different-sized posts. The specialist wound up each demonstration giving facts on treating costs for posts of different sizes and service life which could be expected under ordinary conditions.

One mimeograph was prepared comparing three different methods of post treatment. A second was prepared describing the preparation of posts for treatment. A third described in detail the steps in cold-soaking posts in Pentachlorophenol. W. T. Ellison, forestry extension specialist, Eastern District, prepared a mimeographed plan of the home-made post peeler.

All of these materials were distributed in great quantity.

At the suggestion of Edgecombe County Agent J. C. Powell, the extension forester and Mr. H. M. Ellis, In Charge, Agricultural Engineering Extension, worked out details for holding three fence post treating and fence construction demonstrations in July. At each of these meetings the extension forester took 45 minutes for a post treating demonstration. This was followed by a 45-minute demonstration and discussion by Mr. Ellis covering such topics as methods of bracing corner posts, distances between line posts, post sizes needed, combinations of woven and barbed wire, splicing wire, grounding the fence line, etc. Mr. Ellis set up a properly braced corner assembly using full-sized treated corner posts, brace posts and horizontal braces.

These three demonstrations were so well attended and received

that this combined project was written up in the 1952 Outline of Project Plans. Thirty-four of these demonstrations have been requested for the 1952 program year.

Two fence post service life result demonstrations were set up - one at the Craven County fair grounds and one at the Beaufort County fair grounds. At each, a fifty-foot fence panel was constructed. Local treating plants furnished material for the properly braced end assemblies. Seven posts were placed in each test line - untreated pine, untreated red cedar, untreated sap white oak, untreated sweet gum, sap pine cold-soaked in penta, sap pine treated by the Osmose process, and sap pine treated by the hot-and-cold bath method, using either creosote or Pentachlorophenol. An aluminum sign was hung on each post, and an aluminum announcement sign was placed on each end assembly. These signs list the kind of wood, method of treatment and date the post was set in the line.

As time passes, this cooperative project between the Extension Forestry Department and the Agricultural Engineering Extension Department is expected to excite much interest. In addition to serving as fair exhibits, these panels will serve as meeting places for holding method demonstrations in post treating and fence construction methods.

3. Assistance Given to County Extension Workers - This has been rather completely covered in statistics at the beginning of this section.

4. Assistance Given and Received from State, Federal, and Other Agencies

U. S. Forest Service, Southeastern Forest Experiment Station - Forest Utilization Service personnel have acted as instructors at sawmill

operators' field days and have furnished valuable information on fence post treating methods and markets. Information from farm forestry studies conducted at Bent Creek Experimental Forest has been very helpful in publicizing wages earned in harvesting and selling forest products.

U. S. Forest Service, Forest Products Laboratory - Furnished publications on fence post treating and air-seasoning of wood.

N. C. State College, School of Forestry - Furnished materials for treating demonstrations. Furnished instructor at sawmill field day program.

N. C. Division of Forestry, Department of Conservation and Development - Requests involving service work in timber marking and estimating were referred to this agency for handling.

Vocational Agriculture - Farm forestry extension personnel in cooperation with county agents and vocational teachers held 47 field demonstrations and 9 indoor meetings on timber estimating, harvesting, marketing, and post treatment attended by 1,771 veteran farm trainees. Twenty-one field demonstrations for vocational boys were held, attended by 405 boys.

Disston Saw Company - Furnished one-man chain saw on permanent loan for demonstration use. Representatives participated in a number of harvesting demonstrations.

Mall Saw Company - Furnished two-man chain bow saw on permanent loan for demonstration use. Representatives participated in a number of harvesting demonstrations.

Homelite Saw Company - Furnished two-man chain bow saw on permanent loan for demonstration use. Representatives participated in a number of harvesting demonstrations.

McCulloch Saw Company, Sandvik Saw and Tool Corporation - Representatives participated in a number of harvesting demonstrations.

Halifax Paper Company, International Paper Company, N. C. Pulp Company, Camp Manufacturing Company, and Various Pulpwood Dealers and Producers - Furnished information on pulpwood marketing at field demonstrations. Furnished crews to thin demonstration areas. Furnished prizes for contests at field day programs. Farm forestry extension personnel advised on locating and publicizing new buying yards, checked marking by company foresters on farm woodlands upon request, and referred company foresters to persons wishing to sell pulpwood.

E. C. Atkins Saw Company - Furnished instructor at sawmill field day programs.

Agricultural Engineering Extension Department, N. C. State College - Cooperated in holding combined post treating and fence construction demonstrations. Cooperated in setting up two result demonstrations in fence post service life and fence construction.

Peery Treating Plant at Kinston - Furnished treated posts and lumber for result demonstration at Craven County fair grounds.

Williamston Treating Company - Furnished treated posts and lumber at Beaufort County fair grounds.

D. Forest Protection

1. Fire Prevention - This has largely been left up to personnel of the State Division of Forestry. However, forestry extension personnel assisted county agents in holding 38 field demonstrations and 8 indoor meetings at which the need for fire prevention, damage caused by uncontrolled fires, fire-fighting methods and equipment were featured with the cooperation of local personnel of the N. C. Division of Forestry.

The construction and annual maintenance of permanent firebreaks was also stressed.

R. S. Douglass, forestry extension specialist, Southeastern District, prepared 7 news articles on fire prevention for use by county agents in his territory.

In the 1951 farm forestry Plan of Work the following goal was set for the year:

"Number of farmers to cooperate actively in forest fire prevention and to construct firebreaks (with cooperation of the Agricultural Conservation Program and the N. C. Division of Forestry) - 50,000 persons.

County agents in 89 counties reported that 48,033 farmers cooperated in forest fire prevention in 1951. This figure shows combined results of the work of county agents and farm forestry extension personnel.

2. Protection from Grazing - The 1950 federal farm census shows that one-third of the total farm woodland acreage in the mountain counties of North Carolina is pastured. The situation is such that grazed mountain woodlands are gradually becoming the number one soil erosion problem in the mountain counties.

F. E. Whitfield, forestry extension specialist, Western District, has been publicizing the effects of woodland grazing through news articles, radio programs and through calling it to the attention of farmers attending demonstrations of other practices. Three field meetings were held to observe the results of pasturing woodland, and two result demonstrations were set up in cooperation with T. V. A. to measure the results from fencing out previously grazed woodland.

3. Protection from Insects - 1951 was a banner year for forest insect attack and damage in North Carolina.

Pine bark beetles were reported in greater numbers than had been seen in many years. Southern pine beetle outbreaks reached the epidemic stage in Carteret and Craven Counties, and severe infestations were found in eight other coastal plain counties.

In cooperation with the extension entomologist and Mr. Charles Speers, Entomologist in Charge, Forest Insects Investigations Branch, Bureau of Entomology and Plant Quarantine, the extension forester and assistant extension forester prepared mimeographed sheets describing southern pine beetle symptoms, damage and methods of control. A letter was prepared for county agents to send to farmers in counties where infestations had been located. This material was distributed to county agents in the Eastern District at their regular district meeting in April. W. T. Ellison, forestry extension specialist, Eastern District, alerted several timber operators to the danger and secured their cooperation in salvaging beetle-killed timber. He also spent considerable time during the summer investigating suspected areas upon request from the county agents, identifying insects found and recommending control methods.

Other extension efforts in insect control consisted for the most part of making field visits on request, identifying specimens sent in by mail, and making recommendations for control. Turpentine beetles were active as usual and were found killing pines around new home sites as a result of grading operations. Small engraver beetles, Ips avulsis, were found killing pines in patches which occasionally reached one acre in size. Pine tip moth, Rhyacionia species, was especially abundant in

the Piedmont and occasioned a large number of inquiries. As usual, requests were received in considerable numbers for control of powder-post beetles in infested buildings. Locust leaf miner and oak leaf blotch attracted a lot of attention, as did ambrosia beetles.

The pine leaf adelgid (Pineus pinifoliae) discovered on spruce and white pine in 1950 was still prevalent in spruce stands at the higher elevations. Attacks and killing of lateral branches, etc., on white pine were not as widespread in 1951, as they were in 1950.

Some progress was made towards preparing a popular-style leaflet on "Turpentine Beetles" in cooperation with the extension entomologist and the Forest Insect Investigations Branch, Bureau of Entomology and Plant Quarantine. This leaflet will be printed in 1952.

Insects which showed up for the first time in North Carolina were the pin oak sawfly found in Wake County and Catawba County and the mimosa webworm found on honey locust in Wake and Forsyth Counties.

Altogether, 17 meetings were held with county agents and farm people to pass on information on insect identification, damage caused and control methods. Forestry extension specialists made 85 farm visits to identify insect attack and recommend control methods. Two news articles and three circular letters were prepared and sent out by J. E. Ford, assistant extension forester, on insect problems.

4. Protection from Diseases - Oak wilt was identified on scarlet oaks in Asheville and Waynesville in 1951. This is the first definite identification of this disease in North Carolina.

J. E. Ford prepared a mimeograph listing symptoms and procedure for sending in specimens for positive identification to the plant

pathology clinic at State College. This was sent to all county agents in counties where oak stands are important.

Slime flux was quite extensive on white oaks in the spring and early summer.

Altogether, 10 field meetings and 9 indoor meetings were held on tree diseases. Seventy-six visits were made to identify diseases and recommend control methods. An exhibit on white pine blister rust was shown at three county fairs in the mountains. This exhibit was furnished through courtesy of the Blister Rust Control Service, Bureau of Entomology and Plant Quarantine.

In all, 4 meetings or demonstrations were held for F. F. A. boys, attended by 295; and 10 meetings or demonstrations were held for veterans farm trainees, attended by 272, in various phases of forest protection.

E. 4-H Forestry

This was one of the major phases of the farm forestry extension program during the 1951 program year.

1. Extent That Planned Goals Were Achieved - The following is a statistical summary of accomplishments during the year. Where the particular activity was listed as a goal in the 1951 farm forestry extension Plan of Work, the appropriate figure is listed under the column "Planned, 1951."

| | Planned 1951 | Accomplished 1951 |
|---|---|---|
| Number of 4-H Club members to complete forestry projects | 2,000 | 2,350 |
| Acreage involed | | 4,222 |
| Number of 4-H Club members to plant forest tree seedlings 1/ | 1,000 | 1,244 |
| Number of trees planted | 1,250,000 | 1,171,825 |

1/ Free trees furnished by industry and T. V. A. only.

| | Planned 1951 | Accomplished 1951 |
|---|---|---|
| Number of field meetings and demonstrations for 4-H Club members at which farm forestry extension personnel assisted | | 552 |
| Number of indoor meetings for 4-H Club members where farm forestry extension personnel assisted | | 55 |
| Number of club members who received instruction at meetings and demonstrations from forestry extension specialists | 25,000 | 18,919 1/ |
| Number of counties in which farm forestry extension specialists assisted with forestry contests for farm boys sponsored by local industries or civic organizations | 16 | 16 |
| Number of counties receiving forestry instruction at county 4-H summer camps from farm forestry extension specialists | 52 | 14 |
| Number of club members attending | | 661 |
| Number of local leaders attending | | 66 |
| Special forestry and conservation camps for farm youth at which assistance was given by farm forestry extension specialists | 3 | 2 |

Although certain goals were not met this year, it is felt that the 4-H forestry program is increasing in effectiveness. For example, in 1950, 4-H Club members completed 1,638 forestry projects involving 3,399 acres. This past year they completed 2,350 projects involving 4,222 acres. This is an increase of 43% in completed projects and 24% in acreage involved in one year. Further, county agents and assistant county agents are doing more 4-H forestry program work on their own. For example, they report that 28,843 club members in 1951 received definite training in forestry. During the same year, forestry extension specialists reported that 18,919 club members received forestry training at meetings and demonstrations in which they participated. Thus, some 10,000 additional club members received training by county and home agents without the assistance of a forestry specialist. This

1/ Includes demonstrations, meetings, tours and summer camp instruction where farm forestry extension specialists assisted. County agents representing 98 counties report that 28,843 club members received definite training in forestry.

is a healthy trend.

We expected an increase in 1951, in number of trees planted by club members. Instead, the number decreased by 16,900 compared to 1950. A major factor here was the supply of shortleaf pine. The State Forest nursery ran out midway in the planting season. This hurt our efforts in the Southwestern and Northwestern extension districts.

At the same time, the number of club members planting trees was 1,244 in 1951 compared to 958 in 1950. From this we assume that interest in tree planting is still increasing among club members.

2. Extension Methods and Teaching Devices Used - In the 1950 annual report, the various teaching devices used by farm forestry extension personnel were explained in detail. Thus we will give only a few outstanding examples of teaching devices used in 1951.

Forestry field days for club members were held in seven counties this year. In two of the counties, Montgomery and Caldwell, 4-H forestry field days have been held annually for the past four years.

Union County held such an event for the first time this year. They called it a "Junior Forestry Field Day." Seventy-five 4-H'ers, F. F. A. boys and Boy Scouts attended. Twenty-five per cent of these boys brought their dads with them. The program consisted of group instruction in planting, thinning, tree estimating and the use of the bow saw. Contests were held for men and boys in sawing, chopping, estimating and thinning. Local hardware stores and lumber companies furnished prizes. The Monroe Lumber Company served lunch in the woods to all who attended.

Special attention was given to describing the rules and requirements for entering a timber thinning contest sponsored by the Monroe

Junior Chamber of Commerce. As a result of this meeting, 21 4-H Club members entered the contest; and 16 completed contest projects.

Forestry contests, sponsored locally by civic clubs and industries, were held in 16 counties this year. Wake County, for example, had for the first year, a timber stand improvement contest for both 4-H and F. F. A. boys. This project was sponsored by the Raleigh Chamber of Commerce. This organization furnished $150.00 for cash prizes to the first twelve winners. They also made $25.00 available to erect a sign on the best project located along a well-traveled road.

Extension Forester Gray and District Forestry Extension Specialist Jones met with County Agent Grady Miller and his assistants early in the fall. An announcement form listing rules and regulations of the contest, an application form for entering, and a report form were drafted. These were mimeographed and distributed to all vocational teachers in the county. Assistant Agents Bruce Butler and Harry Prevette distributed them to interested 4-H Club members after conducting a short forestry program at club meetings.

Each contestant was required to thin or otherwise improve the growth rate and quality of timber on one-half acre of woodland. County agents and vocational teachers by themselves or, in a few cases, with the help of Mr. Jones helped entrants to locate and measure off their contest areas and gave them a little on-the-ground training in tree selection. They also explained factors such as neatness and uniformity of thinning, height of stumps, completeness of utilization, etc., which would be considered at judging time.

About 30 to 35 boys entered the contest, and 20 (13 F. F. A. and

7 4-H) completed their projects. Prizes were awarded by members of the Forestry Committee of the Chamber of Commerce on a tour of the three top projects. This tour was attended by contestants and their parents and by members of the Chamber of Commerce.

The first prize winner, Ronnie Bullock of Route 2, Raleigh, in the Knightdale community cut 9 cords of pulpwood valued at $72.00 and 5 cords of fuelwood valued at $25.00 off of a half-acre of 30-year-old pines. He left 115 choice crop trees on the half-acre to grow for future income. His father was so impressed with the results of this project that he had a service forester mark 40 acres of his woodland on a thinning basis and cut and sold 600 cords of pulpwood.

Much forestry training with club members was conducted through forestry programs using slides, movies, flannel exhibits, posters, etc., at regular club meetings. W. T. Ellison, forestry extension specialist, Eastern District, mounted 16 posters, charts, diagrams and other material used in teaching on heavy cardboard. He placed these on window and blackboard ledges around the classroom when he was called on to help with a forestry program at a club meeting. He states that this created a "forestry atmosphere" and that invariably, although he might not mention the posters during the program, numerous questions would be raised about the practices or other information displayed.

Forty-four applications were submitted by county agents for 4-H county forestry champions who wished to attend the state forestry camp for farm boys in August. Thirty-five of the best-qualified applicants were selected to attend. Four forestry extension specialists served as instructors at the week-long camp sponsored by the Southern Pulpwood Conservation Association. Extension Forester Gray was in charge of tree

identification classes. Assistant Extension Forester Ford was in charge of instruction in forest insects and diseases. District Forestry Extension Specialist Jones was in charge of timber scaling instruction. District Forestry Extension Specialist Whitfield assisted in the fish and game and planting classes.

For the first time, county medals were available to 4-H Club county forestry champions. The details of selecting these winners, report forms, etc., were worked out with 4-H Club Leader L. R. Harrill. Silver medals were furnished by the North Carolina Forestry Association. Forty-eight counties requested and awarded these medals to the 4-H Club member in the county with the best forestry record in 1951.

3. Assistance Given and Received from Federal, State, and Private Agencies and Individuals in Promoting 4-H Forestry

   a. U. S. D. A., Forest Service - Furnished copies of Miscellaneous Publication 395, "Forestry for 4-H Clubs" plus charts, "How a Tree Grows."

   b. U. S. D. A., Production and Marketing Administration - Set up conservation payments for forest planting and timber stand improvements. 4-H Club members through their parents were urged to take advantage of this assistance by farm forestry extension personnel.

   c. Tennessee Valley Authority, Forestry Relations Division - Furnished 261,200 free seedlings to 4-H Club members for planting projects in Western District counties. Farm forestry extension personnel and county agents publicized and promoted tree planting by 4-H Club members, and county agents distributed trees once they reached the county.

   d. N. C. Division of Forestry - Directed state-wide forestry camp for farm boys in which Extension Service cooperated by furnishing

instructors, helping plan the program, and selecting and sending 35 4-H delegates to the camp.

Grew and shipped trees purchased by paper companies for free distribution to 4-H Club members upon receipt of applications from extension forester.

e. Champion Paper and Fibre Company, Canton, N. C. - Donated $175 for prizes in sponsoring timber stand improvement contest for farm boys in seven mountain counties conducted by extension personnel and vocational teachers.

Co-sponsored state-wide forestry camp for farm boys with three other paper companies and furnished instructor for the week.

Donated 54,500 shortleaf pine seedlings and 220,850 white pine seedlings to 4-H Club members. Extension personnel secured applications and promoted the program with club members.

f. N. C. Pulp Company, Plymouth, N. C. - One of four co-sponsors of 1951 state-wide forestry camp for farm boys.

Donated 606,600 loblolly, longleaf, and slash pine seedlings to 4-H Club members. Extension personnel secured applications and promoted the program with club members.

g. Riegel Paper Corporation, Bolton, N. C. - One of four co-sponsors of 1951 state-wide forestry camp for farm boys.

h. International Paper Company, Georgetown, S. C. - Furnished contest prizes and refreshments at three 4-H forestry field day programs. Furnished forestry instructors upon request. One of four co-sponsors of 1951 state-wide forestry camp for farm boys.

i. North Carolina Forestry Association, Wananish, N. C. - Sponsored

silver medals for county 4-H forestry champions in 1950-1951. County agents selected county winners and arranged award ceremonies.

j. A. T. Griffin Manufacturing Company, Goldsboro, N. C. - For third time donated free seedlings to 4-H Club members in Wayne County. Extension personnel secured applications and promoted program. Sponsored tree planting contest for farm boys. Winners received cash prizes and trip to International Paper Company mill at Georgetown, South Carolina.

k. Raleigh Chamber of Commerce, Raleigh, N. C. - Donated $175 for cash prizes and signs on winning projects in sponsoring 1950-51 "Wake County Timber Stand Improvement Contest for Farm Boys." Extension personnel and vocational teachers promoted and directed project activity among 4-H and F. F. A. boys.

l. P. M. Barger Lumber Company, Statesville, N. C. - Donated $50 to be used for cash prizes in sponsoring "Iredell County Forest Planting and Thinning Contest for Farm Boys." Extension personnel and vocational teachers promoted program and secured applications from 4-H and F. F. A. boys.

m. Junior Chamber of Commerce of Union County, Monroe, N. C. - Set up $50 for cash prizes in sponsoring 1950-1951 "Timber Thinning Contest for Union County 4-H Club Members." Sponsored forestry field day for 4-H Club members. Extension personnel planned, promoted, and directed project activity and meeting.

n. Lenoir Chamber of Commerce, Lenoir, N. C. - For fourth straight year set aside $100 to be used for cash prizes in sponsoring "Forestry Contest for Caldwell County Farm Boys." Extension personnel and

vocational teachers promoted and directed program. Sponsored trip to Bent Creek Experimental Forest for 4-H Club boys and girls with outstanding records.

o. Optimist Club, Lenoir, N. C. - Donated loving cup to farm boy with best timber stand improvement project in Caldwell County during 1950.

p. Wilkes Chamber of Commerce - For fifth straight year put up $175 to be used as cash prizes in sponsoring "Wilkes County Timber Stand Improvement Contest for Farm Boys." Extension personnel and vocational teachers promoted and directed project activity with 4-H and F. F. A. boys.

q. Elkin Kiwanis Club - For fourth straight year donated $100 for cash prizes as sponsor of "Surry County Timber Stand Improvement Contest for Farm Boys." Extension personnel and vocational teachers promoted and directed project activity with 4-H and F. F. A. boys.

r. Walnut Cove Rotary Club - Donated $50 for cash prizes in sponsoring "Timber Stand Improvement Contest for Stokes County 4-H Boys." Extension personnel promoted and directed project activity. This is the fourth year this contest has been sponsored.

s. Halifax Paper Company, Roanoke Rapids, N. C. - Donated 7,000 loblolly pine seedlings to club members in Halifax County.

t. Carr Lumber Company and Gloucester Lumber Company, Brevard, N. C. - Donated $75 for prizes to winners in Transylvania County timber stand improvement contest.

u. Mead Corporation, Sylva, N. C. - Furnished cash prizes in sponsoring Jackson County timber stand improvement contest.

v. Building and Loan Association, Waynesville, N. C. - Furnished cash prizes in sponsoring Haywood County timber stand improvement contest.

F. Other Activities

1. State Forestry Council - Extension Forester Gray served as representative of the Agricultural Extension Service and attended and took part in one meeting during the year.

2. Meeting of Extension Foresters, Camp Bob Cooper, S. C. - Gray prepared program with suggestions from W. J. Barker, South Carolina extension forester, and C. D. Dyer, Georgia extension forester. Personnel appearing on the program were Gray, Ford, Smith, Whitfield, Jones, and Douglass.

3. Forestry Committee, Production and Marketing Administration - Gray served as member and attended one meeting during year.

4. North Carolina Forestry Association - Gray served as member of nominating committee and state tree farm committee.

5. Farm and Home Week - Gray served as chairman and Ford as member of arrangements committee. Ford also served as member of properties committee.

6. 4-H Short Course - Gray served as chairman of campus tours committee and served as master of ceremonies at talent programs. Ford served as member of properties committee.

7. Bent Creek Experimental Forest - Gray served as member of advisory committee.

8. National Meeting, Society of American Foresters, Washington, D. C. - Gray, Ford, Smith and Douglass attended. Gray took part in discussion at one division meeting. These men also attended the all-day meeting of extension foresters held prior to the Society meeting.

9. Personnel Training - Gray spent two weeks in January training W. T. Ellison in extension methods and procedure. He also spent one week

in March with James H. Phillips, assistant county agent (forestry), Wayne County, in training activity.

V New Teaching Materials Prepared

| Type | Title | No. Copies Printed |
|---|---|---|
| Extension Folder #85 | How to Use the Log and Tree Scale Stick - revised from U. S. Forest Service leaflet | 10,000 |
| Booklet | Forest Protection Record Book for 4-H Club Members | 20,000 |
| Mimeographs | Oak Wilt | 500 |
| | Southern Pine Beetle | 500 |
| | Cold-Soaking with Penta | 2,000 |
| | Selection of Fence Posts for Home Use or Treatment | 2,000 |
| | Costs of Fence Posts | 200 |
| | Revised List of Treating Plants in North Carolina Selling and Custom-Treating Fence Posts | 500 |
| | Sources of Various Wood Preserving Chemicals | 500 |
| | List of Available Forestry Publications, Maps, Posters, etc. | 500 |
| | Outline for Forestry Resource-Use Education | 500 |
| | Explosive Wedge | 500 |

Set of 13 slides was prepared on "4-H Thinning and Timber Stand Improvement Projects." Three sets were placed with forestry extension specialists in the three western districts.

In cooperation with Tennessee Valley Authority foresters a set of 16 colored slides was prepared on "Steps in Tree Planting and Planting Sites in Western North Carolina." Three sets were placed with forestry extension specialists in the three western districts.

J. E. Ford drew up specifications for a tree and log scale stick. We received 2,500 of these near the end of the 1951 program year. We placed 247 of these in 1951.

All forestry subject matter material in the Agricultural Workers' Handbook was revised and brought up to date. A new page was added on "Chemical

Control of Trees." This booklet is used by all agricultural workers in the state.

In addition the following were prepared:

1. Statement on forestry for outlook material.
2. Forestry section in "Outline of Project Plans," revised.
3. Statement of 1950 forestry extension accomplishments for Director's annual report.
4. Statement on program objectives for use by Assistant Director of Extension.

VI Measuring Program Effectivesness

No formal or planned efforts were made during the year towards evaluating farm forestry extension program activities. As in the past, informal methods, such as a frank discussion with the county agent and his assistants at the close of a forestry meeting or demonstration, were used to determine how effectively information was presented and what possible improvements could be made in a future program on the same subject. Qualified foresters in industry and in other agencies who have had the opportunity to observe the extension forestry program in action were also asked for their opinions and suggestions.

Without exception, the personnel of this department are continuously analyzing their own efforts and program progress in their assigned areas. They are never entirely satisfied either with their own efforts, the efforts of the county agents or the level of farm interest and activity in farm forest management. They never will be satisfied; but when they look back to what the situation was when they entered the work, they can see a lot of progress.

The personnel of this department would welcome the establishment of a level-of-performance survey among farm woodland owners at periodic intervals. This, more than any other evaluation activity, would measure the effectiveness of the farm forestry extension program and the efforts of allied programs in the farm forestry field.

VII Statistical Summary

| Type of Data | Name of Specialist | | | | | | | | Totals |
|---|---|---|---|---|---|---|---|---|---|
| | Gray | Ford | Ellison | Jones | Douglass | Keller | Smith | Whitfield | |
| Days in office | 163 | 155 | 160 | 58 | 143 | 108 | 43 | 70 | 900 |
| Days in field: | | | | | | | | | |
| On state-wide or area activities | 34½ | 16 | 4 | 6 | 8½ | 12 | 4 | 10½ | 95½ |
| Assisting county extension personnel | 61½ | 69 | 87 | 110½ | 91 | 138 | 215 | 130½ | 902½ |
| Assisting other governmental agencies | 6 | 2 | ½ | 32 | 6½ | 13 | 3 | 36½ | 99½ |
| Assisting others | 6½ | 39 | 20 | 60 | 14½ | 13 | 8 | 25½ | 186½ |
| Holidays taken | 11 | 9 | 4 | 10 | 10 | 8 | 5 | 10 | 67 |
| Annual leave taken | 20 | 12 | 3 | 16½ | 21½ | 8 | 0 | 11 | 95 |
| Sick leave taken | ½ | 3 | 0 | ½ | 3 | 2 | 0 | 1 | 10 |
| Number of conferences in office | 892 | 735 | 129 | 23 | 50 | 412 | 162 | 47 | 2,450 |
| Circular letters: | | | | | | | | | |
| No. prepared | 19 | 13 | 1 | 0 | 1 | 0 | 14 | 16 | 64 |
| No. of copies sent out | 1,292 | 2,284 | 150 | 0 | 26 | 0 | 632 | 328 | 4,712 |
| Individual letters written | 783 | 1,081 | 122 | 78 | 102 | 101 | | 152 | 2,419 |
| News articles prepared for press and radio | 16 | 9 | 1 | 0 | 8 | 3 | 42 | 13 | 92 |
| Radio broadcasts | 2 | 3 | | 0 | 1 | 2 | 32 | 19 | 59 |
| Exhibits prepared and shown | 1 | 2 | 1 | 1 | 1 | 1 | 13 | 6 | 26 |
| Scale sticks placed | 59 | 135 | | 0 | 13 | 40 | 0 | 0 | 247 |
| Literature distributed: | | | | | | | | | |
| Bulletins and leaflets | 1,543 | 2,829 | 30 | 20 | 243 | 265 | 1,000 | 2,125 | 8,055 |
| Folders | 572 | 640 | | 55 | 56 | | 1,260 | 200 | 2,783 |
| Mimeographs | 1,565 | 1,976 | 476 | 140 | 638 | 1,000 | 315 | 1,900 | 8,010 |
| Charts and posters | 39 | 787 | 6 | | 95 | 80 | 165 | 230 | 1,402 |
| Other | 69 | 55 | 16 | | | | | | 140 |
| Total number of pieces | 3,788 | 6,287 | 528 | 215 | 1,032 | 1,345 | 2,740 | 4,455 | 20,390 |

Statistical Summary (Field Work)

| Extension Procedure | Name of Specialist | | | | | | | | Totals |
|---|---|---|---|---|---|---|---|---|---|
| | Gray | Ford | Ellison | Jones | Douglass | Keller | Smith | Whitfield | |
| Method Demonstrations | | | | | | | | | |
| Veterans | 9 | 6 | 8 | 14 | 2 | 9 | 108 | 13 | 169 |
| Other Adults | 41 | 22 | 10 | 8 | 11 | 20 | 115 | 14 | 241 |
| 4-H | 13 | 11 | 165 | | 99 | 17 | 173 | 74 | 552 |
| Other Youth | 17 | 5 | 1 | 4 | | | 25 | 28 | 80 |
| Result Demonstrations | | | | | | | | | |
| Started: Adult | 7 | 13 | 2 | 4 | | | 7 | 6 | 39 |
| 4-H | | 3 | | 4 | | 49 | 3 | 25 | 84 |
| Continued: Adult | | | | 1 | | | | | 1 |
| 4-H | | 4 | | | | 12 | | | 16 |
| Completed: Adult | | | | 7 | 5 | | | | 12 |
| 4-H | | | | 6 | | 26 | | | 32 |
| TOTAL DEMONSTRATIONS | 87 | 64 | 186 | 48 | 117 | 133 | 431 | 160 | 1,226 |
| Attendance at Demon. | | | | | | | | | |
| Veterans | 216 | 145 | 186 | 802 | 125 | 378 | 2,966 | 406 | 5,224 |
| Other Adults | 1,109 | 1,334 | 141 | 1,922 | 199 | 2,008 | 2,215 | 1,244 | 10,172 |
| 4-H | 685 | 425 | 2,577 | | 4,990 | 336 | 4,282 | 2,814 | 16,109 |
| Other Youth | 397 | 115 | 18 | 294 | | | 418 | 2,893 | 4,135 |
| TOTAL ATTENDANCE | 2,407 | 2,019 | 2,922 | 3,018 | 4,314 | 2,722 | 9,881 | 7,357 | 35,640 |
| Gen. Meetings, Tours | | | | | | | | | |
| Veterans | 3 | 7 | 0 | 2 | 3 | | 37 | 7 | 59 |
| Other Adult | 28 | 44 | 0 | 10 | 8 | 8 | 35 | 7 | 140 |
| 4-H | 3 | 7 | 0 | 5 | 4 | 4 | 32 | | 55 |
| Other Youth | 1 | 6 | 0 | 3 | 2 | 1 | 7 | | 20 |
| TOTAL GEN. MEETINGS | 35 | 64 | 0 | 20 | 17 | 13 | 111 | 14 | 274 |
| Attendance at General Meetings or Tours | | | | | | | | | |
| Veterans | 48 | 145 | 0 | 141 | 143 | | 654 | 128 | 1,259 |
| Other Adult | 1,062 | 1,283 | 0 | 521 | 405 | 310 | 234 | 206 | 4,021 |
| 4-H | 166 | 392 | 0 | 574 | 174 | 193 | 1,311 | | 2,810 |
| Other Youth | 75 | 140 | 0 | 90 | 230 | 41 | 58 | | 634 |
| TOTAL ATTENDANCE | 1,351 | 1,960 | 0 | 1,326 | 952 | 544 | 2,257 | 334 | 8,724 |
| Meetings Attended Only | | 23 | 21 | 9 | 7 | 4 | 6 | 4 | 74 |
| Visits to: | | | | | | | | | |
| County Agents | 169 | 173 | 167 | 149 | 253 | 218 | 304 | 181 | 1,614 |
| Demonstrations | 44 | | 10 | 23 | 36 | 0 | 0 | 0 | 113 |
| Other Farms and Farmers | 43 | 90 | 64 | 188 | 182 | 311 | 490 | 137 | 1,505 |
| Industries and Operators | 65 | 7 | 24 | 103 | 57 | 20 | 21 | 11 | 308 |
| Others | 159 | 567 | 48 | 26 | 31 | 84 | | 71 | 986 |
| TOTAL FIELD VISITS | 480 | 837 | 313 | 489 | 559 | 633 | 815 | 400 | 4,526 |
| 4-H Camps Instructed | | 0 | 2 | 2 | 1 | 0 | 3 | 0 | 8 |
| Counties Represented | | 0 | 3 | 4 | 1 | 0 | 6 | 0 | 14 |

VIII Planting Tables

Table 1. State Summary of Trees Placed by Extension Personnel
By Districts
1950 - 1951 Planting Season

| District | State Nursery Purchase Trees except Cedar and Other Christmas Trees | | State Nursery Red Cedar and Other Christmas Tree Species | | Pulpwood Industry Free Trees to 4-H | | Pulpwood Industry Free Trees to Adults | | T. V. A. Nursery Free Trees to 4-H | | T. V. A. Nursery Free Trees to Adults | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees |
| Eastern | 2 | 3,500 | 5 | 4,500 | 135 | 22,975 | | | | | | | 142 | 30,975 |
| Northeastern | 40 | 101,850 | 23 | 39,850 | 71 | 93,000 | 7 | 23,000 | | | | | 141 | 257,700 |
| Southeastern | 33 | 144,800 | 16 | 20,750 | 163 | 281,550 | 26 | 101,000 | | | | | 238 | 548,100 |
| Northwestern | 72 | 236,150 | 9 | 6,900 | 177 | 208,800 | | | | | | | 258 | 451,850 |
| Southwestern | 99 | 243,100 | 13 | 12,100 | 727 | 304,300 | 62 | 178,400 | | | | | 446 | 737,900 |
| Western | | | 1 | 500 | | | | | 426 | 261,200 | 530 | 1,418,100 | 957 | 1,679,800 |
| Totals | 246 | 729,400 | 67 | 84,600 | 818 | 910,625 | 95 | 302,400 | 426 | 261,200 | 530 | 1,418,100 | 2,182 | 3,706,325 |

Table 2. Summary of Trees Placed by Extension Personnel
Eastern District
1950 - 1951 Planting Season

| County | State Purchase Trees except Cedar | | Red Cedar or Christmas Tree Plantings | | Pulpwood Industry Free Trees to 4-H | | Pulpwood Industry Free Trees to Adults | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Appli-cations | Trees | Appli-cations | Trees | Appli-cations | Trees | Appli-cations | Trees | Appli-cations | Trees |
| Beaufort | | | 2 | 1,000 | 5 | 5,500 | | | 7 | 6,500 |
| Camden | | | | | | | | | | |
| Carteret | | | 1 | 2,000 | 5 | 3,000 | | | 6 | 5,000 |
| Chowan | | | | | 1 | 1,000 | | | 1 | 1,000 |
| Craven | | | | | | | | | | |
| Currituck | | | | | | | | | | |
| Dare | 1 | 1,000 | | | 122 | 10,475 | | | 123 | 11,475 |
| Gates | | | | | | | | | | |
| Hyde | | | | | | | | | | |
| Jones | | | | | 2 | 3,000 | | | 2 | 3,000 |
| Onslow | | | 1 | 1,000 | | | | | 1 | 1,000 |
| Pamlico | | | | | | | | | | |
| Pasquotank | | | | | | | | | | |
| Perquimans | 1 | 2,500 | | | | | | | 1 | 2,500 |
| Tyrrell | | | 1 | 500 | | | | | 1 | 500 |
| Washington | | | | | | | | | | |
| Totals | 2 | 3,500 | 5 | 4,500 | 135 | 22,975 | | | 142 | 30,975 |

Table 3. Summary of Trees Placed by Extension Personnel
Northeastern District
1950 - 1951 Planting Season

| County | State Purchase Trees except Cedar | | Red Cedar or Christmas Tree Plantings | | Pulpwood Industry Free Trees to 4-H | | Pulpwood Industry Free Trees to Adults | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees |
| Bertie | | | 1 | 3,000 | 3 | 2,500 | | | 4 | 5,500 |
| Edgecombe | 8 | 23,000 | 1 | 1,000 | 14 | 17,000 | | | 23 | 41,000 |
| Franklin | 1 | 2,000 | 1 | 2,000 | 3 | 2,000 | | | 5 | 6,000 |
| Granville | 3 | 6,000 | | | 10 | 13,000 | | | 13 | 19,000 |
| Greene | | | | | | | | | | |
| Halifax | | | | | 7 | 7,000 1/ | | | 7 | 7,000 |
| Hertford | 5 | 10,000 | 1 | 2,000 | 3 | 3,500 | | | 9 | 15,500 |
| Johnston | | | | | 1 | 1,000 | | | 1 | 1,000 |
| Lenoir | | | 2 | 1,500 | 3 | 2,500 | | | 5 | 4,000 |
| Martin | 4 | 11,100 | 1 | 500 | | | | | 5 | 11,600 |
| Nash | 1 | 250 | | | 2 | 3,000 | | | 3 | 3,250 |
| Northampton | 3 | 16,000 | | | 3 | 4,000 | | | 6 | 20,000 |
| Pitt | 2 | 3,000 | 4 | 7,000 | 5 | 8,000 | | | 11 | 18,000 |
| Vance | 2 | 2,500 | | | 3 | 5,000 | | | 5 | 7,500 |
| Wake | 1 | 500 | 3 | 8,000 | | | 1 | 5,000 | 5 | 13,500 |
| Warren | | | | | | | | | | |
| Wayne | 8 | 19,000 | 7 | 9,800 | 13 | 24,000 2/ | 6 | 18,000 | 34 | 70,800 |
| Wilson | 2 | 8,500 | 2 | 5,050 | 1 | 500 | | | 5 | 14,050 |
| Totals | 40 | 101,850 | 23 | 39,850 | 71 | 93,000 | 7 | 23,000 | 141 | 257,700 |

1/ Donated by Halifax Paper Company, Roanoke Rapids, N. C.
2/ 8,000 of these donated by A. T. Griffin Manufacturing Company, Goldsboro, N. C.

Table 4. Summary of Trees Placed by Extension Personnel
Southeastern District
1950 - 1951 Planting Season

| County | State Purchase Trees except Cedar | | Red Cedar or Christmas Tree Plantings | | Pulpwood Industry Free Trees to 4-H | | Pulpwood Industry Free Trees to Adults | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees |
| Anson | 4 | 10,500 | 1 | 2,500 | 38 | 46,750 | 4 | 16,000 | 47 | 75,750 |
| Bladen | | | | | 3 | 3,500 | | | 3 | 3,500 |
| Brunswick | | | 1 | 4,000 | 3 | 6,500 | | | 4 | 10,500 |
| Columbus | 1 | 1,000 | 1 | 4,000 | 1 | 1,000 | | | 3 | 6,000 |
| Cumberland | 1 | 1,000 | 2 | 1,000 | 6 | 11,000 | | | 9 | 13,000 |
| Duplin | 3 | 4,600 | 3 | 2,500 | 2 | 6,000 | | | 8 | 13,100 |
| Harnett | | | | | | | | | | |
| Hoke | 6 | 34,500 | | | 8 | 21,000 | 7 | 17,000 | 21 | 72,500 |
| Lee | 1 | 3,500 | 1 | 1,500 | 4 | 4,000 | 1 | 5,000 | 7 | 14,000 |
| Montgomery | 2 | 4,500 | 1 | 650 | 57 | 97,000 | 10 | 46,000 | 70 | 148,150 |
| Moore | 5 | 56,200 | | | 13 | 34,500 | | | 18 | 90,700 |
| New Hanover | | | 2 | 1,100 | | | | | 2 | 1,100 |
| Pender | 1 | 11,000 | 1 | 500 | | | | | 2 | 11,500 |
| Richmond | 2 | 3,000 | 3 | 3,000 | 22 | 37,300 | 2 | 10,000 | 29 | 53,300 |
| Robeson | 1 | 500 | | | 3 | 5,000 | | | 4 | 5,500 |
| Sampson | 1 | 500 | | | 3 | 8,000 | | | 4 | 8,500 |
| Scotland | 5 | 14,000 | | | | | 2 | 7,000 | 7 | 21,000 |
| Totals | 33 | 144,800 | 16 | 20,750 | 163 | 281,550 | 26 | 101,000 | 238 | 548,100 |

Table 5. Summary of Trees Placed by Extension Personnel
Northwestern District
1950 - 1951 Planting Season

| County | State Purchase Trees except Cedar | | Red Cedar or Christmas Tree Plantings | | Pulpwood Industry Free Trees to 4-H | | Pulpwood Industry Free Trees to Adults | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Appli-cations | Trees | Appli-cations | Trees | Appli-cations | Trees | Appli-cations | Trees | Appli-cations | Trees |
| Alamance | 2 | 5,000 | | | 3 | 1,500 | | | 5 | 6,500 |
| Alleghany | 10 | 34,500 | | | 22 | 56,000 | | | 32 | 90,500 |
| Ashe | 3 | 8,000 | | | 1 | 1,600 | | | 4 | 9,600 |
| Caswell | 15 | 36,850 | | | 11 | 7,600 | | | 26 | 44,450 |
| Chatham | 4 | 27,700 | | | 55 | 34,500 | | | 59 | 62,200 |
| Davidson | 1 | 1,000 | | | 2 | 2,500 | | | 3 | 3,500 |
| Durham | 1 | 1,000 | | | 3 | 6,500 | | | 4 | 7,500 |
| Forsyth | 4 | 12,500 | 1 | 500 | 1 | 1,000 | | | 6 | 14,000 |
| Guilford | 2 | 3,500 | | | 4 | 6,000 | | | 6 | 9,500 |
| Orange | | | | | 10 | 8,500 | | | 10 | 8,500 |
| Person | 1 | 500 | | | 9 | 11,600 | | | 10 | 12,100 |
| Randolph | 5 | 10,500 | | | 1 | 3,000 | | | 6 | 13,500 |
| Rockingham | 2 | 4,500 | 4 | 2,500 | 9 | 6,000 | | | 15 | 13,000 |
| Stokes | 2 | 2,500 | | | 3 | 4,000 | | | 5 | 6,500 |
| Surry | 18 | 82,100 | 1 | 1,200 | 14 | 13,500 | | | 33 | 86,800 |
| Wilkes | 2 | 6,000 | 2 | 1,200 | 27 | 42,500 | | | 31 | 49,700 |
| Yadkin | | | 1 | 1,500 | 2 | 2,500 | | | 3 | 4,000 |
| Totals | 72 | 236,150 | 9 | 6,900 | 177 | 208,800 | | | 258 | 451,850 |

Table 6. Summary of Trees Placed by Extension Personnel
Southwestern District
1950 - 1951 Planting Season

| County | State Purchase Trees except Cedar | | Red Cedar or Christmas Tree Plantings | | Pulpwood Industry[1] Free Trees to 4-H | | Pulpwood Industry[2] Free Trees to Adults | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees | Applications | Trees |
| Alexander | | | | | | | | | | |
| Burke | | | 3 | 2,000 | 14 | 19,000 | | | 17 | 21,000 |
| Cabarrus | 10 | 57,500 | | | 4 | 5,000 | 12 | 34,500 | 26 | 97,000 |
| Caldwell | 13 | 38,000 | | | 57 | 56,150 | | | 70 | 94,150 |
| Catawba | 2 | 5,000 | 3 | 4,500 | 5 | 5,000 | | | 10 | 14,500 |
| Cleveland | 4 | 4,850 | | | 17 | 22,000 | | | 21 | 26,850 |
| Davie | 1 | 1,000 | | | 2 | 3,000 | | | 3 | 4,000 |
| Gaston | 3 | 2,000 | 2 | 2,000 | 26 | 38,500 | 9 | 18,000 | 40 | 60,500 |
| Iredell | 4 | 7,500 | 1 | 500 | 16 | 15,500 | | | 21 | 23,500 |
| Lincoln | 3 | 6,500 | | | | | 7 | 15,500 | 10 | 22,000 |
| McDowell | | | | | 1 | 1,000 | | | 1 | 1,000 |
| Mecklenburg | 10 | 10,000 | | | 18 | 13,100 | 9 | 32,000 | 37 | 55,100 |
| Polk | 9 | 14,600 | 1 | 500 | 8 | 10,000 | | | 18 | 25,100 |
| Rowan | 10 | 9,750 | 1 | 1,000 | 19 | 15,750 | | | 30 | 26,500 |
| Rutherford | 14 | 41,500 | | | 21 | 25,800 | | | 35 | 67,300 |
| Stanly | 7 | 30,300 | 1 | 600 | 33 | 34,500 | 11 | 29,600 | 52 | 95,000 |
| Union | 9 | 14,600 | 1 | 1,000 | 31 | 40,000 | 14 | 48,800 | 55 | 104,400 |
| Totals | 99 | 243,100 | 13 | 12,100 | 272 | 304,300 | 62 | 178,400 | 446 | 737,900 |

Table 7. Summary of Trees Placed by Extension Personnel[1/]
Western District
1950 - 1951 Planting Season

| County | T. V. A. Nursery Free Trees to Adults | | Red Cedar or Christmas Tree Plantings | | T. V. A. Nursery Free Trees to 4-H | | Totals | |
|---|---|---|---|---|---|---|---|---|
| | Appli-cations | Trees | Appli-cations | Trees | Appli-cations | Trees | Appli-cations | Trees |
| Avery | 28 | 46,500 | 1 | 500 | 12 | 9,000 | 41 | 56,000 |
| Buncombe | 49 | 96,000 | | | | | 49 | 96,000 |
| Cherokee | 63 | 186,000 | | | | | 63 | 186,000 |
| Clay | 17 | 25,200 | | | | | 17 | 25,200 |
| Graham | 24 | 44,800 | | | 14 | 10,700 | 38 | 55,500 |
| Haywood | 15 | 37,000 | | | 22 | 15,000 | 37 | 52,000 |
| Henderson | 38 | 85,500 | | | 9 | 9,500 | 47 | 95,000 |
| Jackson | 45 | 131,000 | | | 25 | 19,000 | 70 | 150,000 |
| Macon | 67 | 412,500 | | | 35 | 26,500 | 102 | 439,000 |
| Madison | 25 | 68,500 | | | 11 | 6,000 | 36 | 74,500 |
| Mitchell | 18 | 40,500 | | | 210[2/] | 65,000 | 228 | 106,500 |
| Swain | 42 | 67,500 | | | 40 | 31,000 | 82 | 98,500 |
| Transylvania | 46 | 80,600 | | | 38 | 54,000 | 84 | 134,600 |
| Watauga | 34 | 51,500 | | | | | 34 | 51,500 |
| Yancey | 19 | 45,000 | | | 10 | 14,500 | 29 | 59,500 |
| Totals | 530 | 1,418,100 | 1 | 500 | 426 | 261,200 | 957 | 1,679,800 |

1/ Figures refer to farm plantings only. Municipal and industrial plantings are not included even if the county agent or forestry extension specialist was responsible for its establishment. In other districts, figures show all classes of owners if tree order came in on an Extension Service application blank.

2/ This represents 210 boys who planted trees. All of these were ordered on 8 application blanks.