

Please return

NORTH CAROLINA
AGRICULTURAL EXTENSION SERVICE
ANNUAL REPORT

for

1956.

Period covered: December 1, 195 to November 30 1956.

Name of Project: Farm Forestry Extension Work

Covering work done by J. L. Gray, In Charge, Forestry Extension; G. W. Smith,
Assistant Extension Forester^{1/}; W. M. Keller, Forestry Extension Specialist^{2/};
and District Forestry Extension Specialists W. T. Ellison^{3/}; H. J. Andersen,
R. S. Douglass, W. M. Keller^{4/}, J. H. Gilliam^{5/}, E. M. Jones and F. E. Whitfield.
Work of L. H. Hobbs, Forestry Marketing Specialist, covered in separate report^{6/}.

Percentage of time devoted to project: 100%

Date Submitted: May 13, 1957. Signed: John L. Gray

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

- 1/ To June 30, 1956
- 2/ Beginning July 1, 1956
- 3/ To August 31, 1956
- 4/ To June 30, 1956
- 5/ Beginning June 1, 1956
- 6/ Beginning July 1, 1956

A N N U A L R E P O R T
F A R M F O R E S T R Y E X T E N S I O N W O R K
N O R T H C A R O L I N A

December 1, 1955 - November 30, 1956, Inclusive

John L. Gray, In Charge, Forestry Extension
Walter M. Keller, Forestry Extension Specialist

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.

TABLE OF CONTENTS

	<u>Page</u>
I. Results or Accomplishments -----	1
A. Overall Progress -----	1
1. L-H Forestry -----	1
2. Adult Program -----	2
3. Administrative Accomplishments -----	5
B. Accomplishments by Major Work Phases -----	5
1. Tree Planting -----	12
2. L-H Forestry -----	17
3. Brushland Conversion and Hardwood Control -----	23
4. Long-time Cooperators -----	27
5. Roadside Demonstrations -----	28
6. Measurement, Marketing, Harvesting, Preservation and Utilization -----	31
7. Forest Insect and Disease Protection --	33
8. Forest Fire Prevention -----	36
9. Department Administration Supervision and Program Development -----	46
II. Activities at the State or Area Level -----	46
A. Work with State Extension Supervisors, District Agents, and Youth Leaders in Program Planning -----	48
B. Assistance Given to or Received from Other Subject Matter Specialists and Research Personnel -----	51
C. Assistance Given to or Received from Various State, Federal and Other Agencies or Interest Groups -----	60
III. Assistance Given County Extension Workers with Both Adult and Youth Work -----	66
IV. Contribution to Regional Extension Program -----	68
V. Special -----	68
A. Program Activities -----	68
1. Farm and Home Development -----	70
2. Marketing -----	71
B. Program Projection -----	71
<u>Exhibits</u>	
A. Extension Forestry Goals and Accomplishments - 1956	
B. Statistical Summary, 1956	
C. Planting Summary	
D. State and District Trends - North Carolina Proportion of Work Time Devoted to Forestry All White Male County Workers	

ANNUAL REPORT

1956

FARM FORESTRY EXTENSION WORK

NORTH CAROLINA

John L. Gray, In Charge, Forestry Extension
Walter M. Keller, Forestry Extension Specialist

I. Results or Accomplishments

A. Overall Progress

1. 4-H Forestry - At the beginning of the program year definite activity and result goals were set for this phase of the program. These goals and 1956 accomplishments were as follows:

- a. Ten per cent increase in white 4-H forestry project completions. In 1955, we had a total of 3,557 project completions among white 4-H Club members. In 1956, we had 3,741 completions, an increase of 5%. We did not meet our goal because we had a drop in number of club members planting trees. In 1956, 326 fewer club members planted tree seedlings than in 1955. This decrease was due to an acute shortage of white pine for planting in the western Piedmont and Mountain counties.

In spite of the decrease in supply of seedlings, 922 Club members ordered and planted a total of 1,242,000 seedlings in 1956.

- b. Activity goals set for 4-H forestry demonstration competition call for 50% of the counties in the state to have club members entering district demonstration contests in forestry and each district to have an entrant in the state demonstration contest. In 1956, 40% of the counties participated in district contests; and all districts had entries in the state contest.
- c. In 1955, 90% of the counties sent a delegate to the annual 4-H forestry leader training camp. The goal for 1956, was for 100% participation. In 1956, 93 counties were represented by a delegate; and a total of 96 boys, which included three from Indian Reservations, showed up at camp.
- d. In 1955, a total of only 17 long-time records were entered in the state forestry judging to select the state 4-H forestry winner. The 1956 goals called for a total of 30 counties to have long-time records sent in in this phase of the program. A total of 24 were received.

2. Adult Program

- a. Forest fire protection - At the request of Governor Luther H. Hodges, a state-wide forest fire prevention conference was held in Raleigh under the sponsorship of the North Carolina Forestry Association in October. The Extension Service, plus the North Carolina Division of Forestry, with cooperation from industry foresters, was asked to take the lead in getting 2,000 persons to accept invitations and come to the conference. A total of 2,200 attended. All were persons with leadership responsibility in their home counties and communities. As a

result of this conference, several counties organized locally to carry out intensive forest fire prevention programs; but this organization came about after the Extension program year ended and will be covered in the 1957 annual report.

In cooperation with the State Division of Forestry, fire-weather data and recommendations for trash, brush and field burning were made a part of daily television programs carried by the State College television station.

- b. Long-time cooperators - In 1956, plans called for having a total of 30 adult long-time forestry cooperators by the end of the year. At the end of the year 40 such cooperators had been set up and started on an active timber-growing program. Of this total, 20 were set up in 1956.
- c. Brushland conversion to pine - At the beginning of the 1956 program year goals were set calling for one hardwood conversion demonstration per county where needed. During 1956, 69 such demonstrations were established in 26 counties.
- d. Training Farm and Home Development agents - When Farm and Home Development was first set up in North Carolina, 12 counties were selected to add personnel - 2 in each district.

One program objective for 1956^a, was to hold/woodland analysis training school for county extension personnel in each of these original 12 counties. Two had been held in 1955 - in Nash and Wayne Counties. In 1956, one- or two-day schools were held in six of the counties designated. This leaves four more to be trained.

- e. Program projection - In 1956, specialists of this department prepared short statements on the forestry situation and needs for 88 of the state's 100 counties. These statements were used by individual county program projection committees, and much of the material in them was included in the county program projection reports.
- f. Tree planting - A total of 5,800,000 forest tree seedlings were ordered by farmers and 4-H Club members on application blanks distributed by extension personnel. For all practical purposes this was the same number as placed during the record year or 1955.

In 1956, extension personnel were responsible for placing 48% of all tree orders received at state and TVA nurseries as compared with 40% in 1955.

Much emphasis was placed on machine planting in 1956, and as a result 31 additional tree planting machines were purchased and made available on either a rental or loan basis to farmers and other small private landowners during the year.

3. Administrative Accomplishments

- a. Marketing - During 1956, an A.M.A. forestry marketing project was approved; and since matching funds were not available from state sources, private support for the first three years was secured. A marketing specialist was hired and assigned to the Extension Forestry Department as of July 1. A regular monthly "Tarheel Timber Market" report was set up effective September 1, giving prices, raw-material demand and market

outlook conditions based on a reporting system in which some 50 operating mills have agreed to participate. This monthly report is distributed to all county extension personnel and, through them, to timber buyers, plant operators, consulting foresters, industry foresters, and foresters in other public agencies, as well as landowners.

- b. Department fellowship - In order to train an existing member of the staff to develop a program designed to reach sawmill operators and other primary wood processors, private support for a \$5,000 one-year fellowship was secured; and a staff member was granted leave of absence to take graduate training in wood technology.
- c. Agent time devoted to forestry - In 1956, all white male county workers, excluding one or two counties which had foresters employed as assistant county agents, devoted 3.73% of their total work time to forestry. In 1955, they devoted 3.26% of their time; and in 1953, 2.55%. Thus, the trend toward agent interest in forestry and time devoted to it continues to show steady improvement.

B. Accomplishments by Major Work Phases

- 1. Tree Planting - Extension Forestry staff members devoted approximately 72% of their time to this phase of the program in 1956.

Measurable results were as follows:

- a. 2,343 adults and 4-H Club members ordered and planted a total of 5,800,000 seedlings. This was broken down as follows:

4-H - 922 orders — 1,242,000 trees
Adults - 1,421 orders — 4,558,000 trees

5,800,000

This amounted to 48% of the total orders received by North Carolina Division of Forestry and Tennessee Valley Authority nurseries and 15% of the total number of trees ordered.

The above figures do not represent the full effect of the program. With an effective demand estimated at 10 to 12 million white pine seedlings, there were about $3\frac{1}{2}$ million available for planting. As a result, the Champion Paper and Fibre Company cut down their free offer to 4-H Club members from 500,000 in 1955 to 300,000 in 1956. The Tennessee Valley Authority, which in past years has furnished about 3 million white pine, had only 1 million this year for North Carolina; and state-nursery production was very short. As a result, county agents in the 33 white pine planting counties did not emphasize planting this year since this would only have aggravated the shortage.

These figures do not reflect a true picture for a second reason. During the 1955-56 planting season the Extension Service used regular order blanks which carried a credit line only to identify them as being placed by extension workers. Extension agents in some counties worked on placing special free offers of trees which were offered on a local-area basis only. These figures were not included because different order blanks were used.

Still a third reason for a slight decrease is the fact that the changes made in one of the free offers to adults helped cause this. In previous years, International Paper

Company has given 750,000 free seedlings to landowners through the Extension Service in counties which are in truck-haul distance of their buying yards. In 1955-56, this offer was placed on a matching basis, with the landowner required to buy an equal number of trees to the amount he asked for through the free offer. As a result of this change, 103,000 of the seedlings included in the free offer were not ordered. We believe, however, that when landowners become accustomed to the way this offer now works, demand will again take care of all the free trees offered.

- b. Considerable emphasis was put on encouraging counties to buy planting machines and make them available to landowners in order to cut down on the cost and labor required to plant.

Prior to the 1956 program year planting machines were available in the following counties: Chatham, Mecklenburg, Cabarrus, Burke, Anson (2), Bladen, Hoke, Lee, Montgomery (2), Moore, Richmond (2), Sampson, Scotland (2), Wayne, Halifax. Total - 19.

During the 1956 program year additional machines were bought in the following counties: Randolph, Rockingham, Person, Guilford, Anson (2), Bladen, Columbus, Cumberland (2), Montgomery (2), Richmond (2), Scotland (4), Union, Gaston, Lincoln (3), Cleveland, Rutherford, Caldwell, Catawba, Wayne, Johnston, Halifax (3), Hertford, Nash. Total - 35. Out of this total, 31 were placed as the result of machine-planting demonstrations, the loan of the demonstration planter to an individual in a

county or otherwise as a result of extension program efforts.

The following are a few examples of how county programs were carried out and what results were obtained:

In Cumberland County, W. T. Barbour asked the county agent to help him locate a tree planting machine to use in planting some of his own land. The agent, together with Ross S. Douglass, forestry extension specialist, located a machine for him; and a method demonstration was held at his farm to show him and his neighbors how to use it. Mr. Barbour and one of his neighbors were so impressed with the efficiency and ease of operating this machine that this fall each bought a machine to use in planting their own land and offered custom-planting service to others in the county.

In Lee County, County Agent K. S. Harmon for some years had been trying to get landowners interested and active in planting trees. Lee is in the Sandhill region of North Carolina, with considerable idle land and thousands of acres of formerly productive forest land which has grown up in scrub oak as a result of mismanagement.

Mr. Harmon had not had too much success. During the 1954-55 planting season 8 persons ordered and planted a total of about 14,500 trees.

Local leaders in the county were also concerned about the lack of interest in tree planting. About 65 of them turned out to a method demonstration in machine and hand planting held in February of 1955, by Extension Forester Gray and Assistant

Extension Forester Smith. At the conclusion of the demonstration, several of them, such as Mr. W. W. Harris, president of the National Bank of Sanford, Mr. John D. Lynch, a partner in Piedmont Woodyards, a pulpwood dealership, and others, together with County Agent Harmon and the forestry specialists, talked about the need for a tree planting machine in the county. The extension foresters gave them information on the various makes and models.

As a result, on December 9, 1955, a presentation ceremony was held at the S. W. Measamer farm. At this program Mr. W. W. Harris, president of the National Bank of Sanford, and Mr. John D. Lynch of Piedmont Woodyards presented a tree planting machine to the landowners of the county through the county commissioners. The machine - a Timber Cat - was a rugged, heavy-duty trailer type which could be used to plant both idle, open land and cut-over land where large stumps were not present. The machine is mounted on rubber tires so that it can be towed from job to job behind a car or pickup truck equipped with a standard trailer hitch. The county commissioners turned the machine over to County Agent Harmon for scheduling.

In order to encourage landowners to get started using the machine and planting a few acres each year, three pulp and paper companies - Continental Can Company of Hopewell, Virginia; Halifax Paper Company of Roanoke Rapids, N. C.; and Reigel Carolina Corporation of Acme, N. C. - announced at this meeting that they had bought 300,000 pine seedlings which would be given

through the county agent to any adult landowner in the county who would agree to plant and care for them. At the time of the presentation 100,000 of these trees had already been ordered. At the end of the 1955-56 season, all 300,000 had been ordered and planted; and an additional 73,000 available through other free offers to 4-H Club members had been ordered and planted, also. About 150,000 of these were planted with the machine.

Landowners in Halifax County had been dragging their feet as far as planting interest was concerned. To stimulate their participation in tree planting, a tree planting contest was held in the county during the winter of 1955-56. About 100,000 trees were planted.

When this contest came to a close, Assistant County Agent A. S. Hardee sat down with Forestry Extension Specialist H. J. Andersen to discuss the need for more planting in the county and how to get it done. As a result of this discussion, it was decided that a "Plant a Million" program would be carried out during the 1956-57 season.

In order to put this over, both Hardee and Andersen realized that a planting machine would be needed. Accordingly, they approached T. G. Harris, wood procurement chief, and Wallace Wicks, chief forester, for Halifax Paper Company in Roanoke Rapids and suggested that they make a machine available for use in Halifax County. As a result, the company decided to donate a brand-new machine to the county provided Mr. Hardee would accept responsibility for scheduling its use.

Mr. Hardee discussed this with the Halifax County board of commissioners, and they gave him the green light to go ahead. At this meeting it was decided that a rental charge of \$5 per day would be set up for use of the machine and that the proceeds would be used to reimburse the company for the cost of the machine and pay for insurance and maintenance.

As the summer months came on, it became obvious to Hardee that due to strong demand over the state seedlings were going to be in short supply and that unless Halifax County made a special effort to reserve some quickly, by the time landowners got around to ordering them, they would be all gone. He again contacted Mr. Harris and Mr. Wicks. As a result, Halifax Paper Company ordered a million trees to be shipped in the early part of the planting season. They also agreed to rent a cold-storage locker, put the million trees in the cold-storage locker, and let the county agent distribute them to landowners on the basis that a landowner would buy a thousand trees and receive another thousand free. Any one landowner could get up to 10,000 trees free by buying an equal amount. The program was thoroughly publicized in the county; all agricultural workers were asked to help with the campaign; and, as a result, 800,000 trees had been ordered by November 30. Now, Mr. Hardee is concerned about getting them all in the ground during the dormant season and is planning to ask Halifax Paper Company to loan an additional machine or two during the peak planting season in order to get the job done.

2. 4-H Forestry - Members of the Extension Forestry Department devoted approximately 18% of their total work time to the 4-H phase of the program.

New records were set in all phases of 4-H forestry activity except tree planting.

In all hundred counties 4-H Club members participated in and completed forestry projects for which they turned in records. 6,286 white and Negro club members were enrolled in forestry projects during the year, and 3,992 completed projects. On the basis of whites only, 5,532 in all hundred counties were enrolled in a project, and 3,721 in the hundred counties completed one or more forestry projects.

In the demonstration phase of the 4-H forestry program the following counties had an individual or team entrant in district contests: Beaufort, Chowan, Currituck, Onslow, Pasquotank, Craven, Nash, Edgecombe, Hertford, Warren, Franklin, Wayne, Wake, Anson, Cumberland, Duplin, Moore, New Hanover, Forsyth, Guilford, Rockingham, Stokes, Wilkes, Alexander, Burke, Catawba, Iredell, Lincoln, McDowell, Mecklenburg, Polk, Rutherford, Buncombe, Clay, Haywood, Henderson, Jackson, Macon, Swain, Transylvania, and the Cherokee Indian Reservation. Thus, a total of 40 counties participated in this phase of the program as compared to 38 in 1955.

All six district winners received \$25 towards their expenses to attend the state 4-H Club Week held in Raleigh in July, and all six entered in state competition. State winners were William Bates and Jimmy Hines of Mecklenburg County, whose demonstration was entitled "Treat Wood Right for Long Wood Life" and was devoted to advantages

and methods of preservative treatment of fence posts for use on the farm. Floyd McCall of Transylvania County, Sammy Walker of Currituck County, Benjamin Hendricks and Ed Lewis of Edgecombe County, Jimmy Cherry and Bobby Matthews of New Hanover County, and Elbert Rhodes of Wilkes County were winners in their respective districts.

William Bates and Jimmy Hines were awarded trophy clocks as state prizes at the state h-H recognition day held in November.

The second annual h-H Forestry Camp, held at Camp Millstone, June 4 to 9, 1956, was attended by 96 delegates from 93 of the state's 100 counties. Only the following counties did not nominate a delegate to represent them at this camp: Cleveland, Chatham, Ashe, Hyde, Dare, Warren. One boy nominated from Davie County was unable to attend because of illness.

In addition, two assistant county agents from each of the six extension districts attended as counsellors. Counties represented were: Cabarrus, Montgomery, Wake, Alleghany, Swain, (Cherokee Indian Reservation), Halifax, Brunswick, Mitchell, Jones, Tyrrell, Rutherford, and Randolph. Members of the Extension Forestry Department served as instructors, plus District Forester J. A. Pippin and his assistants of the N. C. Division of Forestry, who helped with fire control; H. H. Jefferson, safety and training officer, American Pulpwood Association, who conducted a class in woods equipment and safety; and W. E. Roberts of the Sandvik Saw and Tool Corporation, who also assisted with this class. Mr. Charles Millwood, conservation forester with International Paper Company, and Mr. W. K. Williams, extension forester, Washington, D. C., attended and served

as evaluators of the program.

Several associate state 4-H leaders from the state office visited the camp during the week, attended some of the classes, and looked in on the sports and recreation program. All attended the farewell party on Friday evening, where L. R. Harrill, State 4-H Club Leader, gave a short talk on the value of the camp training program. In addition, Mr. Fred H. Wagoner, associate state 4-H leader, served as camp director during the week; and Extension Forester Gray served as program director.

In the best-record phase of the program, 86 counties selected county winners and awarded medals to them at county achievement days as compared to 81 in 1955. In 24 counties county winners prepared long-time records and entered them in state competition. These counties were as follows: Chowan, Pamlico, Granville, Northampton, Wake, Warren, Wayne, Cumberland, Duplin, Moore, Richmond, Alamance, Forsyth, Guilford, Stokes, Wilkes, Alexander, Iredell, McDowell, Mecklenburg, Rowan, Buncombe, Clay, and Jackson.

Records were judged in October by a committee of county agents with assistance from Extension Foresters Gray and Keller. State winner was Robert Auman of Moore County. The other two top-placing long-time records were those of Jack Green of Wilkes County and William Bates of Mecklenburg County.

Robert Auman's record was entered in national competition, and he was selected as one of 12 national winners by the National 4-H Committee. He was awarded two trips to Club Congress - one as state winner and one as national winner.

Each year at North Carolina State Fair one section is devoted to 4-H Club exhibits depicting activities and progress in various phases of the 4-H program. This year Dare County was asked to prepare an exhibit on forestry. County Agent R. S. Smith of Manteo, assisted by local leaders and Extension Foresters Gray and Keller, prepared an exhibit depicting cost and return from growing red cedars for Christmas tree production on a four-year-rotation basis. This exhibit won first prize of \$350 among the 4-H exhibits.

In 1956, there was a drastic drop in the number of forest tree seedlings planted by 4-H Club members as compared to 1955. 1954-55 was a record planting season in 4-H activity with 1,248 club members ordering 2,241,700 trees. In 1955-56, by comparison, 922 club members ordered and planted 1,241,900 trees.

The drop in participation was due to an extreme shortage of white pine for 33 western counties, including 15 in the Tennessee Valley Authority free-seedling area. In 1954-55, the Champion Paper and Fibre Company offered 350,000 free white pine seedlings to club members outside of the TVA area in 18 white pine-planting counties. In 1955-56, this allotment was cut to 100,000 because of the extreme shortage of white pine production at the state nursery.

In the 15 TVA-area counties in 1954-55, the Tennessee Valley Authority offered 2,000,000 trees free to adults and 4-H. 4-H Club members ordered 1,000,000 of these. In 1955-56, Tennessee Valley Authority had only 1,200,000 white pine for western North Carolina; and 4-H ordered about 100,000 of these. In the TVA area no reservation of trees for 4-H is made, and the majority of

the trees available in 1955-56 were ordered early by adult landowners before 4-H Club orders began to come in.

The number of 4-H Club members who received definite training in forestry from county extension workers or county extension workers and members of the Forestry Extension staff in 1956, was approximately the same as in 1955. In 1955, a total of 35,016 club members received training; in 1956, 34,779 received forestry training. Again, all hundred counties conducted forestry training programs for 4-H Club members.

Fred E. Whitfield, forestry extension specialist for the Western District, has been helping his agents in conducting timber stand improvement contests in five counties for 4-H Club members. He reports that in 1956, this contest produced several good projects. For example, Johnny Allen of the Cowee Community in Macon County cut and sold 13 cords of pulpwood from his contest acre and 2 cords of firewood. Altogether he earned \$234.40 gross income from the products harvested. He paid \$91 to a neighbor to haul the products to the buying station and allowed 75 cents an hour for the hundred hours he put in doing the cutting. He still cleared \$68.40 per acre. Prizes were presented on a television farm program held in Asheville.

Johnny is planning to continue this stand improvement operation on 8 additional acres. He did not have land of his own; so he is working in a tract belonging to a neighbor. The neighbor has agreed to give Johnny the products harvested in order to get the improvement operation carried out.

Johnny attended the 1956 4-H Forestry Camp, and Mr. Whitfield

reports that most of his forestry ability was gained through training he received there.

In 1956, the Millstone area was further developed as a forestry training center for 4-H Club members by the construction of a wood-preservation plant. Ross S. Douglass, with assistance from Fred Wagoner, camp director, constructed a pole-type building, part of which is used for equipment storage and is closed in and the other part of which is open and roofed over a 4-foot by 4-foot by 18-foot square steel treating tank. Racks for loading posts and a chain hoist mounted on an I beam track over the tank complete the equipment.

This facility will be used for training agents as well as club members and will be used for training sessions with open-tank commercial plant operators. It is designed as a model for community-sized cold-soaking treating plants.

3. Brushland Conversion and Hardwood Control - The members of the Extension Forestry Department devoted about 10% of their total work time to this program phase.

Converting brushland to pine or carrying out operations that will assure natural restocking of pine is a long-time investment which farmers, generally speaking, in the past have not shown too much interest in carrying out. The program was stimulated in 1956, by a revision of A.C.P. practice payments which had the effect of providing \$30 per acre in cost-sharing towards the cost of putting brushland back to work. In some respects the payments were made more flexible in that combinations could be used on the same acre and a variety of practices could be followed. This revision will

be described in another section.

In 1956, staff members of this department assisted county agents with establishing 82 result demonstrations in 35 counties. In addition, 17 demonstrations started the previous year were continued.

Practices followed depended on the local situation. Where pine was already present, the demonstration consisted of either girdling overtopping cull trees or applying crystal Ammate in notches or 2-4-5-T mixed in fuel oil in frill cuts around the tree.

In the Sandhills brushland conversion generally involved plowing the area during the summer with a two-disk Matthis fireplow pulled by a crawler tractor, which was then followed by planting during the winter months and poisoning of large cull trees not plowed out.

In the Coastal Plain conversion of brushland involved disking out competing vegetation ahead of seed fall where seed trees were present, followed perhaps by poisoning of large cull trees not eliminated in the disking operation. Where no seed trees were present, the process involved disking, planting, and poisoning. Since we had almost a complete cone-crop failure in 1956, most of the Coastal Plain demonstrations required planting.

The following examples are taken from annual narrative reports of certain district specialists:

In the Northeastern District, Jim Andersen and his agents realized that the program started in 1955, to encourage landowners to disk mature pine areas before cutting for natural regeneration would not be practical due to the cone-crop failure. Accordingly, they urged

landowners to concentrate on converting brushland to pine and holding back on cutting mature stands where the owner planned to keep the land in trees. Disking was promoted in conjunction with tree planting.

One complication which held back disking operations was the fact that the rate of cost-sharing under A.C.P. for disking^{was increased} from \$7.50 per acre to \$10.00 per acre and for planting from \$8.00 per acre to \$12.00 per acre. These changes were announced in the early fall prematurely but did not become effective until January 1. Consequently, most landowners delayed operations until January 1, to take advantage of the increased rates. In spite of this, about 600 acres were disked and planted.

Brushland conversion was featured at 15 forestry field days and demonstrations held in 1956 in the Northeastern District. Mr. Andersen reports that about 25% of his news articles and 50% of radio programs prepared by him dealt specifically with hardwood conversion.

In Hertford, Northampton and Pitt Counties the county agents, with Mr. Andersen's help, were successful in persuading crawler-equipment contractors to offer woods disking service.

The Extension Service was the first group to recommend woods disking to private landowners. At first, representatives of other public programs were reluctant to go along; but after seeing the results obtained in 1955, at the present time all foresters in the Northeastern area, both public and industry foresters, are recommending the practice.

Mr. W. I. Procter of Wake County in the fall of 1955, hired a

private contractor to spot-disk areas in 150 acres of mature timber. Mr. Procter reported that this operation cost him approximately \$7.50 per acre. Inspection in the spring of 1956, revealed that the floor of this mature stand was covered with newly germinated seedlings. Mr. Procter then felt free to go ahead and cut the mature timber.

Had Mr. Procter been required to replant the area in order to get a new crop of trees, the cost would have been around \$14.50 to \$15.00 per acre. Thus, he saved himself approximately \$1,100 in establishment cost by carrying out the disk operation just ahead of a heavy seed fall.

In the Southeastern District, Ross S. Douglass, forestry extension specialist, and John Gray, extension forester, helped county agents in Richmond, Montgomery, and Moore Counties hold four scrub oak conversion method demonstrations utilizing a Matthis fireplow loaned by the Bladen Lakes State Forest operated by the N. C. Division of Forestry. One of the meetings in Richmond County was held at Millstone 4-H Camp, where $1\frac{1}{2}$ acres was plowed and then planted to slash, longleaf and loblolly pine to show difference in growth rates of the three species. On land owned by the Cape Fear Corporation in south Richmond County, $\frac{1}{2}$ acre was plowed with a fireplow and $\frac{1}{2}$ acre was disked with a heavy bush and bog-type plow. The area was machine-planted during the meeting. Plowing was about half as expensive as double-cut disk.

In Montgomery County the demonstration was held on a heavy clay soil covered with blackjack oak owned by Mr. Eben Wallace. Here the

area was plowed, planted, and some larger trees were poisoned with Ammate.

On land owned by Paul Russell of Moore County, $\frac{1}{2}$ acre was plowed and $\frac{1}{2}$ acre was double-cut disked. The acre was then planted to slash pine. Crawler tractors to pull the plow or disk were furnished by local equipment contractors.

No effort was made to get large crowds to attend these demonstrations. On the contrary, each agent was asked to invite a selected group of land-clearing equipment contractors and owners of large areas of scrub-oak land in their counties.

As a result of these meetings, J. M. Long of Rockingham, a crawler-equipment contractor, and Ernest Wells of Route 4, Clinton, each bought a Matthis fireplow and offered plowing service on a custom basis. Mr. Russell in Moore County had around a hundred acres bulldozed, which he planted as a result of the February meeting. Mr. Wells has plowed 165 acres in Sampson County and Bladen County on a custom basis up through November, 1956. Mr. Long had plowed about 300 acres through the same period.

Mr. Wells plowed 68 acres for Dr. A. N. Johnson of Garland in Sampson County, charging Dr. Johnson \$12 per hour. Sixty-two hours of equipment-operating time were required to do the job, averaging out at about \$11 per acre cost. Dr. Johnson will plant the plowed area during the 1956-57 winter season.

Mr. Douglass and Mr. Gray have checked the Millstone plowed area and found that survival of the planted seedlings in the furrows was running between 83 and 91% at the end of the first growing season. In addition, it does not appear that any further treatment of brush

will be necessary to get the pine trees up into the sunlight.

Mr. Douglass and Mr. Gray also established a release stand improvement demonstration at Camp Millstone in the early winter of 1956. Three quarter-acre plots well stocked with volunteer pine seedlings which were overtopped by hardwoods were set up. Local labor was hired to girdle all of the hardwoods on one plot, to apply Ammate in cups at the base of hardwoods on the second plot, and to apply 3% 2-4-5-T in fuel oil to frill cuts on hardwoods in the third plot.

Mr. Douglass reports that furrowing in planting scrub hardwood lands in the Southeastern District is catching on very fast with landowners. He anticipates that it will be one of the most successful efforts yet made to promote better forestry in the Sandhill area.

The use of plowing and disking equipment is still on a trial basis in the Piedmont section. E. M. Jones, forestry extension specialist, Southwestern District, established one demonstration in Iredell County in 1956, using a county-owned tractor and disk to plow out brush. Mr. Jones reports that so far this is the best looking of eight conversion demonstrations established in the Southwestern District. This area will be planted to pines in the winter of 1956-57.

John Gilliam, forestry extension specialist, Northwestern District, reports holding hardwood-control demonstrations using crystal Ammate in cups in Person, Rockingham, Alamance and Stokes Counties. In Rockingham County, Mr. Waynick, a prominent landowner, will start

poisoning cull hardwood stands this winter.

Fred E. Whitfield, forestry extension specialist, Western District, reports that he assisted county agents in setting up nine hardwood control demonstrations in five counties in 1956. One of these was on the farm of Jerry Ashe, a 4-H Club member in Clay County. Jerry had underplanted a dry ridge to white pine. Over-topping trees consisted of blackjack oak and low-quality white oak. The pines showed excellent survival but poor growth the first two years. In 1956, Jerry poisoned the smaller scrub oaks; and he plans to cut the larger ones to sell for pulpwood. In the western area one mill buys oak for pulpwood.

4. Long-time Cooperators - Approximately 6% of the time of this department in 1956, was devoted to this phase of the program.

At the beginning of the 1955 program year a goal was set to establish an average of one long-time cooperator who would serve as an overall example of practical small woodland management on a continuous basis in each county. Such a cooperator must preferably be a bona fide farmer who has demonstrated his ability to carry out a continuing timber-growing program as evidenced by past cooperation and activity.

To speed the program along, a specific goal of five per district was set for the 1956 program year. Following is a partial list of such cooperators:

Currituck County - Mr. Roy Olds
Camden County - Mr. H. C. Ferebee
Wake County - Mr. W. I. Procter, Miss Kildee Tucker
Franklin County - Miss Jessie Taylor Harris
Granville County - Mrs. Garland Wheeler

Edgecombe County - Mr. J. P. McNair, Mr. Robert
Rieirson, Mr. Ralph Brake
Nash County - Mr. Elmer Daniels, Mr. Glenn Griffin,
Mr. Bill Joyner, Mr. Edgar Winstead
Pitt County - Mr. Bruce Garriss, Mr. Lindsay Whichard,
Mr. C. S. Whichard, Mr. Robert Edwards
Halifax County - Mr. V. I. Hockaday, Mr. Winston
Perry, Mr. Sidney Randolph
Sampson County - Dr. O. L. Parker
Richmond County - Millstone h-H Camp
Rockingham County - Mr. Roy Waynick
Caswell County - Mr. Corey Watkins
Caldwell County - Mr. Claud Bradshaw, Patterson
School for Boys
Rutherford County - Mr. Zack Whiteside
Cleveland County - Mr. Elmo Moore
Mecklenburg County - Mr. Ed Love
Mitchell County - Mr. Robert Bare

This list is incomplete because some of the district specialists did not include such a list in their annual narrative reports this year. Actually, there are a total of 40 such cooperators now established.

The specialists of this department have been instructed to visit each long-time cooperator at least once a year to check on what progress he has made in following the practices recommended by the specialist and the agent, help him work out ways to overcome obstacles and help him decide what needs to be done the following year. In some cases written work plans have been prepared; in others, cooperation is still on a more informal basis until the owner himself gets to the point where he feels he needs a written schedule.

These ownerships are being used for extension teaching in the counties. For example, a very comprehensive program attended by some 90 persons was held at the Claud Bradshaw farm in Caldwell County. The occasion was the presentation of a "Tree Farm" award to Mr. Bradshaw. Mr. Bradshaw owns 640 acres, of which some 575 is

woodland. Mr. Bradshaw has put in his own sawmill. He has discontinued farming since he has found that he can make a very comfortable living operating his woodland alone. 1956 was the first year in which he depended on his woodland for all of his income and has been by far his best year overall-income-wise since he started farming. During the year he cut 300 cords of pulpwood, which he hauled and loaded himself, and several thousand feet of sawtimber, which he sawed on his own mill and sold the lumber. His average monthly income during the year exceeded \$300 a month from woodland sources alone.

In addition, in 1956, he started planting Christmas trees. He is trying seven different varieties to determine which species is best suited for his own local conditions.

Mr. Robert Rieirson of Edgecombe County was established as a long-time cooperator in the summer of 1955. His progress to date was reported by Northeastern Forestry Extension Specialist H. J. Andersen, as follows:

"Mr. Robert Rieirson, Route 1, Battleboro, is a son-in-law of an Edgecombe County widow landowner. Mr. Rieirson operates the farm for the owner's heirs. A graduate of West Point, Mr. Rieirson believes in careful organization and planning in carrying out any project of a production nature.

"At first he devoted the bulk of his efforts towards improving row-cropping techniques on the farm. When crop allotment cuts began to bite into income from this source, he established a Grade A dairy. After this was set up and operating in a routine manner, he

began eyeing a 120-acre tract of woods which he suspected of being in less than full production. He asked Assistant County Agent Charles Cone to get Mr. Andersen to meet with him and help decide what needed to be done with it.

"Mr. Andersen and Mr. Cone then began to work with him. They first helped him analyze the situation. Briefly, the timber on the 120-acre tract was composed of scattered pine sawtimber, most of it overmature, ranging between 80 and 150 years of age. Beneath the pines was a rather dense undergrowth of low-value hardwood and brush.

"Mr. Andersen and Mr. Cone then tried to get as well acquainted with Mr. Rieirson as possible. They found that he would be a reliable person to carry on a continuing program since it was not likely that he would be forced to take drastic measures in order to meet year-to-year financial emergencies. They found that he had but one objective in mind - to produce all the wood that the land would grow on a continuing basis so as to get maximum continuing income.

"In order to reproduce loblolly pine in Mr. Rieirson's woods, it was necessary to eliminate the hardwood and brush undergrowth. Disking with a crawler tractor and two-ton disk was recommended. After disking it was recommended that the pine timber be marked for timber sale, leaving enough trees to reseed the area in case of fire and at the same time leave enough to provide an operable cut for sawmill operators when the seed trees had to be removed.

"The sequence of operations recommended was as follows:

1. Disk in the summer.
2. Sell marked sawtimber with cutting to begin after seedfall in November.

3. Poison remaining large hardwoods.

"A problem arose with regard to earning A.C.P. cost-sharing for disking and poisoning. Mr. Rieirson was using the bulk of the \$1500 allotment per farm in improvement operations on open land; and, therefore, for this reason it was suggested that he start out treating 30 acres of the 120 acres.

"Mr. Rieirson had the disking done by an equipment contractor at a gross cost of \$11.40 per acre. He also contracted the poisoning to a crew composed of State Division of Forestry non-professional men who were doing the work as a spare-time job. This cost \$7.80 per acre. Out of a total outlay of \$19.20 per acre he received cost-sharing at the rate of \$12.50 through the A.C.P. program.

"For his net investment of \$6.70 per acre he received a full stand of young pine trees, free to grow and develop without overhead competition. In August of 1956, a seedling count revealed that there was an average of 13,000 healthy young trees per acre.

"Mr. Rieirson also did a businesslike job of selling the mature sawtimber on the 30 acres, receiving over \$40 per thousand board feet, International rule, for this stumpage.

"Mr. Rieirson is convinced that this is the way to handle his situation and is planning to tackle the remaining 90 acres on the same basis. Again he will limit each year's operation to the amount of A.C.P. assistance for which he can qualify."

5. Roadside Demonstrations - Approximately $2\frac{1}{2}\%$ of the time of staff members has been spent on this phase of the program.

This program was started in 1955. At the end of the year 6

roadside demonstration areas had been marked with large sign units.

At the end of 1956, 15 additional units had been set up or were being processed. In addition, 18 others had been signed up but orders not sent in due to plans to change the makeup of these sign units somewhat.

This is the only phase of the program where this department is failing by a large margin to meet an established goal. Goals set for 1956, required an average of $1\frac{1}{2}$ roadside demonstration sign units established per county.

One of the major reasons why this program has not moved faster is that it has been difficult to get signs processed within a reasonable time. The holdup has been in getting the detailed story unit sign lettered. The artist on the College television station staff, who originally agreed to letter these signs, left to take another position; and the new artist has not been able to take over this responsibility. It was evident towards the end of the year that changes were going to have to be made in both the method of erecting these signs and in materials used to make up the story sign. These changes had already been made at the time this report is being written and will be reported in the 1957 annual report.

Agents report that the sign units which have been erected are causing considerable comment and resulting in inquiries about the practice demonstrated.

6. Measurement, Marketing, Harvesting, Preservation and Utilization - Approximately 9% of the time of staff members was devoted to this phase of the program.

In the preservation phase of the program Extension Agricultural Engineer H. M. Ellis and Extension Forester Gray held method demonstrations in post treating and fence construction in Pasquotank and Chowan Counties in the fall. Four result demonstrations in fence post durability and fence construction methods in Pitt, Wayne, Jones and Perquimans Counties were inspected and the condition of the posts recorded. As each of these is inspected each year, a record is made and copies are sent to the county agent for his information and use in publicity.

A new demonstration fence was erected in Martin County at the entrance to the Williamston Treating Company plant. Mr. B. H. Tarkington, owner and operator of the plant, is very much interested in this demonstration and furnished materials in the form of creosoted posts, Osmose-treating posts, and penta-treated posts to include in the test line. This fence is adjacent to U. S. 64, where it can be readily seen by passers-by.

In the timber measurement phase a new tree and log scale stick, which had been sent off for processing in 1955, was delivered in 1956. The new stick contains tree volumes by International $\frac{1}{4}$ -inch log rule on one face, plus a scale for measuring diameter and a scale for measuring height, and on the reverse face contains log volumes by International $\frac{1}{4}$ -inch rule for various sizes and lengths. One stick was sent to each white and Negro county agent's office without charge. Additional sticks are sold at cost, which amounts to 35 cents per stick.

New lists of approved consulting foresters were sent to all

county agents in 1956, together with a letter describing the type of services they were prepared to render. Copies of this letter and lists also went to all consulting foresters concerned.

An example of how an agent's recommendations to a landowner to use a consultant turned out is illustrated in the following case history:

Mrs. West Roy of Nash County, a widow, decided she needed to sell some timber. She had read an article written by County Agent J. P. Woodard concerning timber-sale procedure; so she phoned to him for advice.

Mr. Woodard visited her woods and discussed methods of cutting with her. She told him at the time of his visit she had been offered \$1800 for all the timber larger than 10" in diameter across the stump. Mr. Woodard advised her to hire a consulting forester to give her a volume estimate and advise her as to the value of her timber.

She did this, and on the basis of the forester's cruise the timber was sold for \$10,000 cash. In addition, enough seed trees of reasonable size were reserved to help restock the area.

By following the agent's advice to use a consultant in this case, this particular landowner grossed an additional \$8200 from her timber.

The following case history illustrates savings from on-the-farm treatment of fence posts:

Mr. Calvin Horne, a Farm and Home Development farmer in Nash County, in 1956 agreed to allow the Cooper School Ruritan Club and

the Extension staff to hold a post treating and fencing demonstration on his farm. Mr. Horne frankly was skeptical about the possibility of getting any practical information out of this program.

Extension Agricultural Engineer H. M. Ellis, Mr. George Smith, assistant extension forester, and Forestry Extension Specialist H. J. Andersen arrived with equipment and conducted the method demonstration in a pouring rain. Thirty-five people attended and were exceptionally attentive.

After the demonstration Mr. Horne asked Mr. Andersen to order 15 gallons of penta concentrate for him. He had been paying 70 cents each for treated posts. He decided to try the on-the-farm treatment to see if he could actually save money.

In checking back with Mr. Horne, Mr. Andersen found that Mr. Horne's records showed the following:

<u>Cost per post</u>	
Labor for cutting and peeling -	8 cents per post
Cost of treating -----	18 cents " "
Total cost -----	26 cents " "

Savings - 44 cents per post

Mr. Horne has been so enthusiastic about this result that he has talked to his neighbors; and, as a result, four of them are considering treating their own posts, also. One actually began operations in the fall of 1956.

7. Forest Insect and Disease Protection - Approximately 5% of the time of staff members was devoted to this phase of the program.

Forest insect and disease protection has not been emphasized too much in the Extension Forestry program in North Carolina. The

forestry extension specialists in the three western districts, all of whom are headquartered in large cities, and the state office staff devote considerable time to identifying insect specimens on request and making control recommendations. Forestry Extension Specialist John H. Gilliam, for example, reported that around Winston-Salem in 1956, there was an extensive outbreak of oak leaf blister and woolly aphids on maple. He prepared a paper on oak leaf blister control based on a previous "Farm Forestry Facts" sheet and sent it to each county agent in his district. In Forsyth and Rockingham Counties he assisted the agents in putting on a TV demonstration on insect and disease control on yard trees.

In the Southwestern District the Ips epidemic of 1955 died down during 1956, due to almost ideal moisture conditions. Such Ips beetles as did show up in 1956, were found mainly on trees which had been damaged by logging or other mechanical equipment.

In the Western District the southern pine beetle outbreak which started in 1952, was still active. F. E. Whitfield, Western District forestry extension specialist, spent considerable time helping agents identify outbreaks, making control recommendations, and informing them of the status of the infestation during the year. Mr. Whitfield also served on the Southern Pine Beetle Control committee for the Southern Appalachian area.

Oak wilt was found in a new western county (Madison County) in 1956, and Mr. Whitfield was called on to run down a series of false alarms in the same county.

Mr. Whitfield prepared a fair exhibit in cooperation with the

Southeastern Experiment Station on southern pine beetle, which was shown at two fairs in the district during the fall.

In cooperation with the pest control forester of the North Carolina Division of Forestry, discussions were held concerning the formation of a state forest pest control committee. However, due to a lack of time to devote to organization, no progress was made on this in 1956.

8. Forest Fire Prevention - Extension forestry staff members devoted about 4% of their total work time to this phase of the program.

The forest fire prevention phase of the program was stepped up somewhat in 1956. Mr. Ralph Winkworth, prevention forester for the North Carolina Division of Forestry, and Extension Forester Gray prepared three programs and presented them over WUNC-TV, the college television station, in the spring of 1956. State Forester Claridge appeared on the first program, which was devoted to how forest fire danger rating is arrived at. Mr. Winkworth and Mr. Gray both participated in the two following programs, "What a Difference a Day Makes" and "Forest Fire Causes." All three of these programs were based on local black-and-white silent motion picture films, plus other visual aids needed.

In the fall of the year Mr. Gray presented a program entitled "The Menace of Fall," which featured methods whereby incendiarys set fire to the woods and what is being done to stop them. This program was selected as the best television show of the year presented over this station.

In addition, starting with the first program on February 18,

the college television station began carrying daily messages on burning conditions, featuring a Smoky Bear meter and a man in a Smoky Bear costume. The rating is called in to the station each day by the Bayleaf fire tower operator in Wake County. A series of keyed messages was furnished to the announcer for use according to the danger rating.

This program has been continued throughout the fall season and is now reaching a greater number of people since the college program is now networked through three commercial stations.

Another major program effort in forest fire prevention this year was tied in with a state-wide forest fire prevention conference called by Governor Luther H. Hodges at the request of lay forestry leaders in the state and the North Carolina Forestry Association. This was a follow-up of the South-wide arson conference held in New Orleans the previous winter. The purpose of the conference was to get county and community leaders, representatives of the Legislature, county commissioners, Soil Conservation district board members, judicial officials, and others to become aware of the losses suffered through forest fires each year and, in particular, the problems associated with deliberate setting of fires.

Extension Forester Gray was asked to serve as chairman of the attendance committee. It was agreed that the county agent and the county forest fire ranger of the North Carolina Division of Forestry would serve as co-chairmen in each of the hundred counties. In addition, area chairmen, consisting of all district forestry

extension specialists, certain district foresters of the State Division of Forestry, industry foresters, pulpwood dealers, and the TVA forestry representative were asked to be responsible for three to five counties apiece as area attendance and transportation chairmen. A meeting of these men was held in the early fall and definite duties assigned to them with regard to contacting county chairmen and arranging for special transportation in the form of chartered buses, etc., where needed.

Each area chairman was also asked to contact the county co-chairmen at least twice. Two deadline dates were set - one for a preliminary estimate of attendance and the second for a final estimate of attendance plus a list of those who were to attend. Mr. David S. Weaver and State Forester Fred H. Claridge wrote letters to their respective county personnel asking ^{them} to serve, and these letters were enclosed with a writeup prepared by the extension forester concerning the job to be done and the deadline dates to be observed.

The conference was an outstanding success, with some 2,200 persons attending. A minimum goal of 2,000 attending had been set.

The conference served to focus a lot of publicity on the \$35,000,000 annual forest fire loss, the causes responsible for fires, and the problem of dealing with the incendiarys. As a further result, a number of counties organized local county forest fire prevention committees, and a full report on this will be given in the 1957 annual report since many of these were organized after the extension program year ended.

In 1956, in Onslow County local foresters with industry and public service, plus certain landowners, banded together to form a county forest fire prevention association. This was done prior to the Governor's conference. They requested program ideas from the state forester and the Extension Service. Accordingly, Mr. Gray, Mr. W. T. Ellison, forestry extension specialist for the Eastern District, and Mr. Ralph Winkworth, prevention forester for the North Carolina Division of Forestry, worked up jointly a list of projects for their consideration.

This was presented to the club. In the 1957 program year they helped sponsor a county-wide forest fire prevention conference. This will be reported in the 1957 annual report.

9. Department Administration Supervision and Program Development - 1956 saw several significant accomplishments in the line of strengthening the department's program and improving the organization of the work.

As the result of the establishment of accomplishment goals started in 1955, the extension forester in charge was able to rate each district specialist on the basis of how his district compared with others in attaining the goals set. This, together with an appraisal of his attitude, interest and enthusiasm in his work, formed the basis for merit-raise recommendations made in June.

In addition, in December, 1955, for the first time individual progress conferences were held with each staff member. The extension forester and assistant extension forester invited each man to come in and meet with them individually, closed the doors, went

over the progress, or lack of progress, made in each phase of the work in his assigned district, made suggestions for improvement, and gave him an opportunity to bring up any problems which he felt were hindering the progress of his own efforts. In addition, confidential matters, such as salary situations, troublesome relationships with an individual agent, etc., were taken up where needed.

The extension forester in charge also held individual progress conferences with the forestry marketing specialist at the state level and the forestry extension specialist at the state level.

The extension forester in charge feels that as long as such conferences are kept on the level of helping each staff member improve his work and professional situation, they will be appreciated by the staff members; and, for this reason, individual annual progress conferences will be continued each year.

One long-time objective set by the department in its program projection conference in the fall of 1955, concerned professional improvement through graduate training. It was decided that an effort would be made to get a liberal fellowship for the members of this department whereby each year one would be selected to take a year of graduate training in any specialty connected with forestry, extension methods, and so forth, which might be his primary interest.

The basis for selecting the staff member to take this training each year was to include the following considerations:

1. Age.
2. Number of years in extension work.
3. Usefulness of specialty in which he desires advanced training to the program of the department.
4. Ability to qualify for entrance in a graduate school and absorb advanced training.

For the past ten years we have felt the need for a man with the right personality and training to lead and develop an extension program to reach primary processors and particularly lumbermen. Accordingly, a man with special training in this phase of forest utilization was determined to be our first need.

Each man was asked to express his special interest from the graduate-training standpoint. Two, Mr. Whitfield and Mr. Smith, indicated a strong interest in utilization. It was decided that the best training in utilization as related to lumbering methods and problems could be obtained at the School of Forestry, North Carolina State College.

Mr. Whitfield, based on age and years in service, was first choice. When his undergraduate record was appraised, however, it was found that he was not qualified for entrance to the Graduate School at North Carolina State College except on a provisional basis. Since the Extension Service had, after much effort, secured the permission of the Graduate School faculty to accept Extension personnel and our staff member would be the first to enter, it was felt undesirable to request admission for our first candidate on a provisional basis. For this reason, Mr. Smith instead of Mr. Whitfield was selected.

Extension Forester Gray then drew up a proposal stating the need for a sawmill extension program, the type of training and research problem which a graduate student in this field would receive, reasons why a liberal fellowship was needed, and a statement on a publicity program that would be followed to publicize the cooperation

of the sponsor of such a fellowship.

This proposal was presented to officials of R. Hoe & Company, manufacturers of saws, bits, knives, and other equipment for the lumber industry. They generously accepted the proposal and agreed to make the fellowship available through the North Carolina State College Foundation.

William A. Harloe, executive vice president, came to Raleigh for the presentation of the fellowship check to Dean R. J. Preston of the School of Forestry. The presentation was filmed for television news use, and a print of the film was sent to all television stations in the state. A short radio program describing the purpose of the fellowship, featuring the discussion between Dean Preston and Mr. Harloe, was tape-recorded. News stories for use by the daily and weekly press were prepared and released on an agreed-on release date to coincide with the television film release and the radio program release.

Mr. Smith was put on leave of absence, effective July 1, and is currently pursuing the graduate program planned. When completed, he will be reassigned to the Extension Forestry staff as forestry utilization specialist.

It has been our long-time objective for some time, also, to intensify our work in the marketing field. We learned in the spring that there was a possibility we could qualify for an Agricultural Marketing Administration project provided we could find the matching funds necessary.

Matching funds were not forthcoming from state sources. Therefore,

the extension forester in charge drew up a proposal for private support through the North Carolina Agricultural Foundation. This, as in the case of the fellowship proposal, was in brochure form, discussed the importance of intensive work in the field of forest products marketing, the absence of any program on a state level in this field, objectives of the program, and activities which would be undertaken through it.

This program was then presented to the Carolina Chain Saw and Equipment Company of Shelby, North Carolina, North and South Carolina distributors of McCulloch chain saws. Mr. W. R. Porter, president of the company, was enthusiastic about the program, although he did not feel that his company alone could take on the sponsorship. However, he agreed to take the program to the parent company, McCulloch Motors Corporation of Los Angeles, California, and see if they would not assume half of the sponsorship in partnership with Carolina Chain Saw.

McCulloch readily agreed, in cooperation with Carolina Chain Saw, to share equally in the matching funds needed on a one-year basis and, if state support was not forthcoming after that time, for an additional two-year period, at which time it would be up to both of them to decide whether or not they wished to continue.

Mr. Charles Allis, general sales manager of McCulloch Motors, and Mr. Porter came to Raleigh in July to take part in the presentation ceremony with Director David S. Weaver. Again, the ceremony was filmed for television; a radio tape program was made up; newspaper and magazine publicity prepared; and all released to reach

these outlets about the same time.

On July 1, L. H. Hobbs, a forestry graduate in the class of 1938 at North Carolina State College, who had in his background experience as a district forester with the Soil Conservation Service, as a forest supervisor with the North Carolina Division of Forestry, three years as a lumber and veneer buyer, and ten years as the operator of his own lumber business was appointed forestry marketing specialist. Details of his program are covered in a separate report.

An advisory committee for this project, consisting of Dr. C. B. Ratchford, assistant director of the Agricultural Extension Service, Dr. John Curtis, head of the Marketing Extension Department, Dr. R. C. Bryant, professor of Forest Economics at the School of Forestry at North Carolina State College, was set up to help guide this new program.

One function of a department head is to see that people under his supervision get needed in-service training on new developments as needed. Accordingly, in October a two-day training session for members of the department was held, featuring reconnaissance methods in analyzing woodland situations. Dr. R. J. Monroe, of the Department of Statistics at North Carolina State College, served as an instructor in sampling methods and in the statistical basis for selecting a sufficiently intense sample to come within stated limits of accuracy. Dr. T. E. Maki, in charge of forest management teaching and research at the School of Forestry, followed Dr. Monroe's presentation with a discussion of the use of prisms in plotless

cruising. Following the discussion the staff went out to one of the School's forest tracts near Raleigh and practiced using the prism on pre-measured plots.

This training has been put to good use by our staff. As a matter of fact, they have in a number of counties where a rather intensive forestry program is carried, trained one or more of the agents in the use of the plotless-cruising system with a prism as a basis for giving landowners a rough idea of what they might expect in the way of income from following the recommended practices, as well as determining cost per acre of carrying out hardwood control and other operations.

The second day of this training session was devoted to a review of all pertinent information bearing on the question of spacing recommendations for planting pines. Dr. Maki led this discussion, with Dr. Warren Doolittle, Mr. James Renshaw, both of the Southeastern Forest Experiment Station, Mr. P. A. Griffiths, assistant state forester, North Carolina Division of Forestry, Mr. Lyell Hicks, management forester of the North Carolina Division of Forestry, participating. In the afternoon of the second day the program was thrown wide open for discussion; and, as a result, unanimous decision was made to widen spacing recommendations for the state of North Carolina. Previously, planting recommendations for open-field planting were for 6' by 7' spacings, requiring 1,000 trees per acre. The new recommendations specify for white pine, shortleaf pine in the mountain section, loblolly and slash pine on open fields, and 8 by 8 or 6 by 10 spacing, requiring

approximately 680 trees per acre. In converting cut-over land or brushland and in open-field planting of shortleaf pine in the Piedmont, the old standard spacing of 6 by 7 was still considered sound.

These changes were explained in a "Farm Forestry Facts" sheet issue and sent to all agents, public foresters, private foresters, and others concerned.

In November, a two-day hardwood management training conference was held at Statesville, North Carolina. Attending were extension foresters from Virginia, South Carolina, and Georgia, plus Mr. Whitfield, Mr. Jones and Mr. Gilliam, the three western forestry extension specialists in North Carolina, Mr. Hobbs, the forestry marketing specialist, Mr. Keller and Mr. Gray. Instructors for this school were staff members of the Southeastern Forest Experiment Station, plus Mr. Howard J. Doyle, Furniture and Veneer Council forester of the North Carolina Forestry Association. Briefly, the program was devoted to bringing those attending up to date on most of the pertinent research findings dealing with hardwood planting, management and marketing. Tours were made to a veneer mill in Statesville, where log grading was demonstrated, and to the Mooresville research project where tree grading and the application of financial maturity principles to cutting recommendations were demonstrated and practiced.

In summarizing the training program, Extension Forester Gray recommended that a follow-up school be held in the summer of 1957, to which consulting foresters, representatives of the North Carolina Division of Forestry concerned with making cutting recommendations

and marking timber, and the extension forestry staffs would be invited. He suggested that at this school log grading, tree grading and financial maturity instruction be expanded and more opportunity be given for those attending to practice the application of this information.

In addition to these two special training sessions, all members of this department attended a monthly department meeting on the second Monday of each month, at which program activities and other matters were discussed, reports prepared, etc. At the July meeting Mr. P. A. Griffiths, assistant state forester of the North Carolina Division of Forestry, and Mr. H. V. Mangum, administrative officer of the Agricultural Stabilization and Conservation agency, were present to review the seedling supply situation for the 1956-57 winter season, developments in the tree planting phase of the soil-bank program, etc.

There were a number of personnel changes during the year. Mr. W. T. Ellison resigned effective August 31, 1946, as Eastern District forestry extension specialist. To date he has not been replaced. Mr. W. M. Keller was promoted to forestry extension specialist, state level, from forestry extension specialist, Northwestern District, to replace Mr. Smith. Mr. John H. Gilliam, a forester with International Paper Company, was hired June 1, 1956, to replace Mr. Keller as forestry extension specialist, Northwestern District. Mr. L. H. Hobbs was hired effective July 1, as forestry marketing specialist, state level.

At present, staff members and assignments are as follows:

<u>Name</u>	<u>Title</u>	<u>Area or Subject Matter Responsibility</u>	<u>Headquarters</u>
John L. Gray	In Charge, Forestry Extension	State-wide	Raleigh
Walter M. Keller	Forestry Extension Specialist	h-h and tree planting - State-wide	Raleigh
LaFloyd H. Hobbs	Forestry Marketing Specialist	Marketing - State-wide	County Agent's Office, Washington
<u>Vacancy</u>	Forestry Extension Specialist	Eastern District	County Agent's Office, Nashville
H. J. Andersen	" " "	Northeastern District	County Agent's Office, Clinton
Ross S. Douglass	" " "	Southeastern District	County Agent's Office, Winston-Salem
John H. Gilliam	" " "	Northwestern District	County Agent's Office, Charlotte
Edward M. Jones	" " "	Southwestern District	Courthouse, Asheville
Fred E. Whitfield	" " "	Western District	

II. Activities at the State or Area Level

- A. Work with State Extension Supervisors, District Agents, and Youth Leaders in Program Planning - At the request of the Director of Extension, a statement was prepared covering statistical examples of forestry progress in North Carolina over the period 1920 to 1955. This was made up in slide form and used by him in a talk at the annual extension district conferences.

A statement was prepared at the request of the Director on forest income potential from farm woodland, which was incorporated with other information in a brochure describing agricultural progress and opportunities in North Carolina.

At the request of the Dean of Agriculture, a brief statement was prepared on progress in extension forestry and accomplishments of extension forestry; and a rather detailed statement was prepared on opportunities through timber growing and harvesting to make up for the income drop through anticipated allotment cuts on price-supported crops.

A conference was held between the state forester, T.V.A. forester, extension forester, and Extension Director in the early fall to clarify T.V.A. policy with regard to seedlings which they distribute in western North Carolina. The free distribution would continue through the 1956-57 season; but after that all T.V.A. seedlings would be distributed through the state forester on a selling basis.

The Director suggested, in view of the new conservation reserve phase of the soil-bank program, it would be well for foresters concerned with planting to set up a system for keeping a record on how

many trees were planted under the program. Accordingly, an item was included on all tree order blanks for the 1956-57 season where applicants could check whether or not trees were being planted under the soil bank.

One conference was held in the fall with all district agents, at which time the extension forester described the objectives and plans for the Governor's fire conference and requested their support in urging agents to serve as co-chairmen of attendance and transportation committees for their individual counties. The district agents were very enthusiastic about this and were very helpful in encouraging the agents to make a decided effort to help make the conference a success; and they urged them to attend personally wherever possible.

H. J. Andersen, forestry extension specialist for the Northeastern District, prepared a series of charts and a short statement covering forestry activity and progress by counties in his district and, along with the extension forester, presented it to Northeastern District Agent E. L. Norton in the spring. Mr. Norton seemed to appreciate a factual presentation of how things stood in the district forestry-wise and volunteered his help in such matters as urging the agents not to call on Mr. Andersen for routine requests on matters on which they had already been trained and also volunteered to urge them to schedule him as far ahead as possible in order to prevent too much running from one end of the district to another on emergency calls on short notice.

As a result of experience gained through this conference, it was decided that all district specialists once a year would have such a progress conference with the area district agent.

In planning the 4-H Forestry Camp for 1956, a joint conference was

held between the Extension Forestry staff and the 4-H state office staff, at which time all plans for the camp were reviewed and discussed.

The 4-H staff is assigned by districts, also. The district forestry specialist, district agent, and associate 4-H Club leader in each district acted as a committee to select two assistant county agent 4-H counsellors for the 1956 4-H Forestry Camp.

- B. Assistance Given to or Received from Other Subject Matter Specialists and Research Personnel - Specific cooperation resulted in the tryout of a new type of 2-4-5-T Ester brush killer in mechanical control demonstrations planned between Mr. W. G. Westmoreland, weed control specialist in the Agronomy Extension Department, and the district specialists of the Forestry Extension Department.

In the fencing field, H. M. Ellis, specialist in charge of Agricultural Engineering Extension, and J. L. Gray, extension forester, planned and helped the Martin County agent set up a new fence exhibit, visited all existing exhibits to record condition of posts, prepared reports, and sent copies to the agents. Mr. Ellis also cooperated with the Extension Forestry Department in holding three method demonstrations in fence post treatment and fence construction during the year and in serving as instructor in fence construction at the 1956 4-H Forestry Camp. He also served as master of ceremonies of the talent show at camp.

Dr. T. E. Maki, in charge of forest management research and instruction of the School of Forestry, helped a great deal in 1956, in serving as a representative of the experiment station on a committee to set up the Rockingham County Home Farm as a county demonstration

forest area. Along with Extension Forester Gray serving as an ex officio member of the program committee, Dr. Maki served with County Agent Foil representing the Extension Service, a representative of the Rockingham County board of commissioners, and other local Rockingham County representatives in laying out a planting program for some 60 acres of land formerly in crops and pasture as a combination demonstration and applied research project.

The experiment station cooperated in this through making \$500 available in 1956, to use to purchase two large announcement signs and smaller plot signs to mark the areas and list the spacing and kind of trees planted.

In addition, Dr. Maki and Extension Forester Gray worked together in setting up a rating system for evaluating the success of loblolly pine as compared to shortleaf pine plantations in the southwest Piedmont. Three and a half days were spent visiting 14 plantations and taking sample plots in which trees were tallied according to size, height and straightness classification. As a result of this study, loblolly was found to compare so favorably with shortleaf pine in these older plantations that loblolly planting limits were expanded to include seven additional southwest Piedmont counties where formerly only shortleaf was recommended due to fear of destruction of plantations by ice storms.

Extension Forester Gray served as a member of the Advisory Committee for two branch stations of the Southeastern Forest Experiment Station, the Southern Appalachian Research Center at Bent Creek and the Calhoun Experimental Forest at Union, South Carolina. Mr. Gray attended an Advisory Committee meeting for each center, participated

in the discussion, and made suggestions for revision of research projects and inclusion of new projects.

At the request of Dr. Maki, Mr. Gray planned and served as chairman for a seminar held in the spring of the year at the School of Forestry on the subject, "Forest Credit from an Institutional Lender's Standpoint." Participating were representatives of the Equitable Life Assurance Society, including the vice president and the chief forester.

Dr. Mald also served as an instructor at a two-day technical training meeting in October for members of the Extension Forestry Department, as did Dr. R. J. Monroe of the Department of Statistics.

Dr. Maki led an all-day discussion on the second day covering the revision of planting spacing recommendations. Participating were representatives of the North Carolina Division of Forestry, the Southeastern Forest Experiment Station, and the members of the Extension Forestry Department.

Dr. A. J. Coutu, in charge of the Parker Branch Research project for the Department of Agricultural Economics, assisted F. E. Whitfield, forestry extension specialist, to prepare a costs-and-returns statement on producing Fraser fir Christmas trees in western North Carolina. This was mimeographed and sent to all county agents in 1956. Mr. Whitfield also cooperated closely with James Renshaw, leader of the Southern Appalachian Research Center, in conducting a tour of the Bent Creek Experimental Forest for the Buncombe Federation of Home Demonstration Clubs. Mr. Renshaw also assisted Mr. Whitfield in preparing and presenting a television show on pruning pines for quality lumber production.

C. Assistance Given to or Received from Various State, Federal and Other Agencies or Interest Groups - In the Federal agency field, 1956 featured close cooperation between the Extension Forestry program and the Agricultural Conservation program and soil-bank program of the Agricultural Stabilization and Conservation agency.

The Extension Forester, along with representatives of the North Carolina Division of Forestry, as in past years served as a forestry advisory technical group to the state A. S. C. committee. During the year several conferences and meetings were held of this committee with H. V. Mangum, administrative assistant of the state A. S. C. office. A. C. P. practices were revised, as were the rates.

In addition, through close contact the Extension Forester was kept advised of developments in the new soil-bank program. Two "Farm Forestry Facts" sheets - one on returns from planting and a second one featuring the question-and-answer style designed to take up seven minutes on the radio - were prepared at the end of the year and sent to all county agents for their information and use in publicizing the tree-planting phase of soil bank.

Details on the program did not come in until the late fall. As a result, only 50-odd acres were signed up to be placed in trees during the fall of 1956, but an additional 19,176 acres were signed up in the winter of 1957, partly as a result of the publicity given by the Extension Service.

A special "Farm Forestry Facts" issue was devoted to explaining the changing in spacing requirements as written into the 1957 A. C. P. tree-planting specifications and the 1956 and 1957 soil-bank program. Sufficient copies were furnished to the state A. S. C. office to send

a copy to all of their county and area personnel.

Extension Forester Gray participated as a speaker at the annual A. S. C. meeting held in Asheville in the spring. He spoke to the A. C. P. section on forestry opportunities through the A. C. P. program, covering the effect of expanding the forest improvement practice to include disking, bull-dozing or plowing of undesirable trees, as well as thinning, pruning and girdling or poisoning practices.

The year 1956 featured closer cooperation with the Southern Regional Office of the U. S. Forest Service. Extension Foresters Gray of North Carolina, Barker of South Carolina and Dyer of Georgia had a two-day meeting with personnel of the Division of State and Private Forestry and the I. and E. Division of the Regional Office, at which time relationships, policy on direct Federal assistance to farmers and timber processors, and the like, were discussed.

In September, Extension Forester Gray attended a soil-bank meeting sponsored by the Regional Office for extension foresters in the Southeastern states and state forestry division I. and E. chiefs. Plans were made for publicizing the program, and the North Carolina Extension Service flip charts on tree planting were loaned to the Federal service to revise and include soil-bank information and reproduce through slide sets for use throughout the South. Copies of all mimeographs, circular letters, "Farm Forestry Facts" issues, and the like, on soil bank prepared in North Carolina were sent to the Regional Office for their information and distribution if desirable, to other states.

Mr. W. K. Williams, extension forester for the Eastern United

States, was invited to attend the 1956 4-H Forestry Camp as an evaluator. He did so, and during the week he and Extension Forester Gray had a chance to discuss extension activities at the national level, policy with regard to soil bank, and the like.

On the state level, Extension Forester Gray served as vice chairman of the North Carolina Forestry Council, attending two meetings, and took the lead in helping work out changes in state regulations with regard to pulpwood measurement which would provide for buying pulpwood by weight.

Two conferences were held with representatives of the Prison Industries Department of the North Carolina Hwy. Commission. The purpose of these meetings was to discuss ways in which prisoners might be used in forest improvement work after the prison department was separated from the Highway Commission. As a result it was decided that contract hand-planting service would be offered in six eastern counties as a start, and eventually throughout the state. Plans were also made to utilize prisoners during the off-planting season in the girdling, poisoning or release cutting of undesirable trees on private land.

Extension Forester Gray attended a meeting sponsored by the Federal Forest Service at Asheville to discuss the findings of the Federal Forest Service's Timber Resource Review as they applied to North Carolina. Gray served as discussion leader on data concerned with farm and other small private woodland.

Besides continued cooperation in regular activities, such as, tree planting, marking-service work, and the like, the Extension Forestry Department cooperated with the North Carolina Division of Forestry

in 1956, in planning, preparing and conducting three television programs on forest fire control and farm burning practices, which have already been covered. Also, a fire weather and burning condition daily reporting service was set up through the college television station.

On the area level there was considerable misunderstanding in the Rocky Mount district between State Forest Service personnel and Nash County Extension workers with regard to securing marking assistance. As a result Extension Forestry Specialist H. J. Andersen arranged a meeting between the county extension staff, the district forester, service forester, and county ranger. At this meeting the responsibilities of each group were written down and working relations established on a much smoother basis as a result.

Mr. P. A. Griffiths, assistant state forester, and Mr. Lyell Hicks, management forester, of the North Carolina Division of Forestry assisted the Extension Forestry staff to hold a forestry field day program, which consisted of dividing those attending into several groups and rotating them among several stops. Mr. Griffiths served as leader of the timber measurement demonstration, and Mr. Hicks served as leader of the hardwood control demonstration.

The Extension Forestry staff, particularly Mr. Andersen, set up a tour of Camp Manufacturing Company operations at Franklin, Virginia, for sawmill operators. This tour was held at Franklin, Virginia, on April 18, and was attended by 65 sawmill operators and foresters. It was a three-district tour, in which Forestry Extension Specialist W. T. Ellison, Forestry Extension Specialist Ross Douglass, Mr. Andersen,

the service forester with the North Carolina Division of Forestry, Mr. Buck Tate of Elizabeth City, Service Forester Grady Harris of Rocky Mount, and the state Extension Forestry staff, all, cooperated, along with county agents, to bring in a group of bona fide mill operators.

Most of the program was conducted by production men and foresters of the Camp Manufacturing Company. Featured were a movie showing the Camp woods operations, a discussion of the purchase of pulpwood chips from mill waste, a tour of the Camp sawmill, log debarking, slab and edging, chipping and handling of chips bought from outside sawmills and a tour of some of the timber production operations on Camp's Big Woods tract.

The group was very responsive to all parts of the program. They were impressed with the cooperative attitude that Camp had towards the sawmill industry and with the definite efforts that Camp was making to grow timber. They were impressed with the fact that a large sawmill operating concern was spending money to grow timber, and they were impressed with the details involved in keeping forest land productive.

Several of these mill operators requested forestry advice and assistance in setting up timber production programs on their own land as a result of this tour.

In the spring in cooperation with the School of Forestry detailed plans and a program were drawn up covering a four-day short course in forestry to be offered to vocational agriculture teachers using the facilities of the Bladen Lakes State Forest. The personnel of the School of Forestry, the Extension Forestry Department, and the North

Carolina Division of Forestry were instructors. Dr. T. E. Maki of the School of Forestry appeared before the state vocational teachers' meeting and got a rather enthusiastic response from them towards the proposed school. However, very few registered for it when registration was opened; and, therefore, it was postponed.

Ross S. Douglass, forestry extension specialist, Southeastern District, spent several days helping Fletcher Pearson, a vocational agriculture student in Sampson County, and his vocational teacher with forestry project work, particularly along the lines of timber stand improvement. As a result, Fletcher was declared state forestry project winner for 1956. Mr. Douglass also conducted a discussion on general management, with slides and a movie, for the Clinton vocational agriculture class and held a two-hour field trip for them.

Mr. Douglass arranged a tour of hardwood brushland conversion areas on the Bladen Lakes State Forest for agricultural workers of Sampson and Bladen Counties. The tour was conducted by the forest supervisor, Mr. Graham Chamblee.

Mr. Douglass also held a scaling and selective cutting demonstration with the vocational agriculture class of Dunn in Harnett County and also marked five acres of timber on the school property at the request of Harnett County school superintendent.

All members of the staff attended and participated in two district A. S. C. meetings on soil bank.

This department for the past eight years has worked in close cooperation with progressive-minded wood-using industries and has supported them, as well as solicited their support, in promoting the expansion

of timber growing in the state. 1956 highlights of cooperation given and received from such industries are as follows:

1. Free seedlings - In collaboration with the conservation forester, Mr. J. Paul Harper, of International Paper Company, a change was made in this company's policy of giving free trees to adults within truck-haul radius of company installations in North Carolina.

In previous years they had given 750,000 seedlings, with a maximum of 5,000 per landowner, through the county agents in each county.

In the 1956-57 planting season the same total allotment was put up for distribution, but it was offered on a matching basis. In other words, a landowner had to buy 1,000 trees in order to receive 1,000 free trees. Applications were placed not only through county agents but through company personnel at company woodyards and barge landings. Free trees were delivered to the barge landings, and barge-landing personnel and Mr. Harper were on hand when landowners called for them to demonstrate planting technique.

A total of 647,000 free trees were placed with 205 adult landowners in the truck-haul radius area of International Paper Company's installations in 1956-57.

As in past years the North Carolina Pulp Company offered 1,000,000 free loblolly pine to club members in 65 eastern-most North Carolina counties. Again this offer was through the county agents, with extension forestry personnel supervising the distribution of application blanks and information. A

total of 500 club members ordered and received 794,000 out of the million allotment.

In the 20 western counties outside of the T.V.A. area Champion Paper and Fibre Company decreased its offer from a previous total of 500,000 trees to 300,000 trees this year due to an extreme shortage of white pine planting stock. Altogether, 243 4-H Club members ordered and received 305,000 seedlings through this program. This, too, was handled through the county agents and Extension Forestry Department.

2. In certain counties, particularly in the Coastal Plain, follow-up forestry assistance has been a problem. The level of interest is high, requests involving a man with technical knowledge and experience have been heavy; and the forestry extension specialist has not had the time to make the individual calls and State Service foresters have also been so tied up that the net effect was that more forestry was being sold than could be delivered.

Accordingly, Mr. H. J. Andersen approached procurement chiefs of the Camp Manufacturing Company at Franklin, Virginia, of the Halifax Paper Company at Roanoke Rapids and presented the problem to them. He asked if they would be interested in making their representatives and conservation foresters available on direct call to county agents even where the call did not necessarily involve pulpwood harvesting. They agreed to do so, feeling that it would perhaps not necessarily result in a lot of direct procurement of pulpwood but would be a good public relations gesture and a demonstration of their interest

in helping landowners regardless of whether the company benefited directly or not.

Mr. Andersen wrote this up in a "Woods Note," which he gets out monthly to all county agents in his district; and the program went into effect in mid-summer of 1956.

A similar program involving Mr. Dick Boyce, a conservation forester for Champion Paper and Fibre Company, Mr. Charles Millwood, conservation forester for International Paper Company, was set up in the Northwestern extension district. These men have agreed to work with county extension personnel on any forestry problem that may arise when the district extension forester cannot be available.

3. Southern Bell Telephone & Telegraph Company again in 1956, agreed to sponsor the state-wide forestry camp and awards program in North Carolina. A picture brochure of the 1955 program listing results was prepared and presented to them early in the spring of 1956, together with a request for continued sponsorship in 1956. This sponsor has been very well pleased with the results of this program. Again they agreed to sponsor all district and state awards and the state 4-H Forestry Camp.
4. Extension Forester Gray appeared on the program at the annual area meeting of the Southern Pulpwood Conservation Association held at Nags Head in May. He spoke on the topic, "The Services Offered by Extension Foresters to Small Woodland Owners."

III. Assistance Given County Extension Workers with Both Adult and Youth Work

- A. With specialists assigned on a district basis, an extension subject matter department is able to render much closer personal service to county agents than where specialists are broken down on phases of subject matter and each assigned to one on a state-wide basis. Generally speaking, all counties are contacted by the district specialists of this department each year with regard to program planning. In many cases this is on a request basis; but even where requests for this assistance do not come in, district specialists are requested to contact the county staff and offer their assistance.

Most of the effort of this department on obtaining and analyzing local factual information and getting it into county planning was carried out through program projection and is described further in this report.

Special examples of assistance given agents in obtaining and analyzing local factual information in 1956 were as follows:

1. In Forsyth and Guilford Counties shade tree management is a definite problem since these are big-city counties. Forestry Extension Specialist John Gilliam had several discussion meetings with the county staffs in these counties, worked out subject matter information with them, and helped them prepare and present two TV programs on practices associated with keeping shade trees healthy.
2. Following the Governor's fire conference, F. E. Whitfield and Forestry Marketing Specialist L. H. Hobbs assisted County Agent Dwight Bennett in Henderson County in organizing a county forestry association.

About 30 persons turned out to the first meeting. Definite goals with regard to all phases of the forestry program were set by this association.

B. Examples of special assistance in planning, organizing and conducting new subject matter were as follows:

1. In Hoke County, Forestry Extension Specialist Ross Douglass assisted the county agent in preparing a TV program on post treatment. Hoke County had not previously done any work in this field.
2. Forestry Extension Specialist John H. Gilliam, along with L. H. Hobbs, forestry marketing specialist, contacted extension workers in Forsyth and Randolph Counties to discuss the new marketing program, the use of the monthly marketing report, and the possibilities of establishing cash log markets in cooperation with buyers. Mr. Hobbs and Forestry Extension Specialist E. M. Jones also contacted county workers in Cleveland County on this new subject matter. Mr. Hobbs and H. J. Andersen of the Northeastern District contacted county agents in Nash, Edgecombe, Northampton and Granville Counties regarding the new program. This is explained in detail in the separate A. M. A. annual report on the marketing project.
3. H. J. Andersen, forestry extension specialist, Northeastern District reports a new approach to getting results in the woods through participating in a community saturation program in the Stanhope community in Nash County. Stanhope community has a development program. All persons interested in receiving forestry recommendations were signed up at various meetings. Visits were made, and recommendations were written up and sent to landowners.
4. Due to the district assignment setup, generally speaking whenever

forestry tours, forestry field days, field demonstrations on forestry or forestry stops on farm tours are planned, it is possible for the district specialist to be present to help the agent plan and conduct the meeting. This has been a continuing characteristic of this department ever since it was organized on a district basis. Examples of these meetings have been described in Section I and will not be repeated here.

C. Concerning cooperation of local organizations and commercial agencies the following is a list of contests, examples of industry assistance on the county level, etc., for the year 1956:

<u>Name of County</u>	<u>Type of Contest</u>	<u>Group Reached</u>	<u>Prizes</u>	<u>Sponsor</u>
Halifax	Tree planting	4-H and F.F.A.	\$150	Halifax Paper Company
Franklin	Tree planting	4-H and F.F.A.	\$100	Willis Nash, pulpwood dealer
Northampton	Timber stand improvement	Adults, 4-H and F.F.A.		Local wood-using industries
Anson	Tree planting	4-H	\$150	Cape Fear Wood Corporation
Bladen	Tree planting	4-H	\$150	Cape Fear Wood Corporation
Columbus	Tree planting	4-H	\$150	Cape Fear Wood Corporation
Duplin	Tree planting	4-H	\$150	W. H. Hall, pulpwood dealer
Robeson	Tree planting	4-H	\$150	Kelly Pearson, pulpwood dealer
Sampson	Tree planting	4-H	\$150	W. T. McLean, pulpwood dealer
Scotland	Tree planting	4-H	\$105	Kelly Pearson, pulpwood dealer
Stokes	Timber stand improvement and planting	4-H	\$100	Stokes Lumber Company
Wilkes	Planting	4-H	\$100	Wilkes Chamber of Commerce
Transylvania	Timber stand improvement	4-H and F.F.A.	\$ 75	Carr Lumber Company and Silverstein Industries
Buncombe	Timber stand improvement	4-H and F.F.A.	\$ 50	American Enka Corporation

<u>Name of County</u>	<u>Type of Contest</u>	<u>Group Reached</u>	<u>Prizes</u>	<u>Sponsor</u>
Cherokee	Timber stand improvement	4-H and F.F.A.	\$ 50	Murphy Bank & Trust
Graham	Tree planting	4-H and F.F.A.	\$ 25	Bank of Robbinsville
Western District	Timber stand improvement	4-H and F.F.A.	\$150	Champion Paper & Fibre Company

(This prize is awarded in addition to county prizes to the three best T.S.I. project contestants in the entire Western District.)

In addition to contests, specialists of this department helped agents obtain cooperation of various industries in sponsoring and helping hold forestry field day programs. For example, in Person County, Forestry Extension Specialist John Gilliam secured the cooperation of Halifax Paper Company in sponsoring a field day program; and Halifax furnished three foresters to help with the instruction. A total of around 100 persons attended. In Rockingham County a field day was held in cooperation with Champion Paper and Fibre Company and Bowaters Southern Corporation featuring the thinning of pulpwood-sized plantations, machine planting, hand planting, elimination of cull trees and timber estimating.

In all of the above contests extension specialists organized and conducted judging committees to select winners. In the Western District the committee consisted of the service forester, Martin N. Shaw, Jr., of the Asheville District, North Carolina Division of Forestry, and Walter M. Keller, forestry extension specialist, Raleigh. In the Southeastern District the committee consisted of Young W. Rainer, area forester, Southern Pulpwood Conservation Association, and Walter M. Keller.

Forestry Extension Specialist John H. Gilliam worked with County Agent Wayland Reams in Person County to help set up a program for use of a tree planter donated during the year to the people of the county by the Pat Brown Lumber Company of Roxboro and the Peoples Bank of Roxboro. In addition, he helped Mr. Reams plan the publicity and

distribution of 100,000 free seedlings purchased by the Pat Brown Lumber Company and given to the people of the county. In addition, Mr. Pat Brown personally put up a thousand dollars in a general fund to be used to promote good forestry practices in the county, and further plans are being made to get results with this support.

In Guilford County he worked with County Agent W. C. Kimrey to set up a program for the use of a tree planter donated by the Jones Lumber Company of Greensboro.

- D. Major assistance in selection, training and use of local volunteer leaders during the year centered around the Governor's fire conference. The persons invited to attend this conference were influential people or people representing influential groups in each county. In many cases they rode to the conference with a staff member of this department or a forester with industry, with the U. S. Forest Service, or with the State Division of Forestry. Travel time was devoted to a discussion of forestry problems; and transportation was, where possible, set up to permit a grouping of leaders with a forester.

Following the conference, Extension Forester Gray prepared an outline of steps to be taken in organizing county forest development committees or county forestry committees, plus suggested projects on which such committees could concentrate. This was sent on request only to agents in counties where steps were taken towards organizing a local committee. In 1956, these counties were: Henderson, Caldwell, Onslow, Beaufort and Hertford.

E. Assistance to Agents in Preparation and Use of Teaching Devices

During 1956, the 4-H judging setup at demonstration contests was revised on a simpler basis. Copies of the new system were mimeographed

and sent to all agents concerned. The 4-H tree planting record book was revised and reissued. New tree and log scale sticks were sent to all white and Negro agents' offices. A mimeograph covering procedure for determining growth rate of individual trees was revised for use at county agent training schools. The forestry section of the Ag Workers' Handbook was brought up to date and expanded.

In the distribution of "Farm Forestry Facts" monthly issues and the "Tarheel Timber Market" monthly issues these were previously mailed direct to non-Extension personnel who had requested them. Both mailing lists were revised on a county-by-county basis, copies sent to each county agent, and distribution replanned so that all in-state mailing will be through the county agent of the county in which the recipient is located.

Spacing recommendations on tree planting were revised in October. A special issue of "Farm Forestry Facts" was prepared outlining the new spacing requirements which were incorporated in 1957 A. C. P. standards and in both 1956 and 1957 requirements for tree planting under the conservation reserve phase of the soil-bank program.

Northeastern District Forestry Extension Specialist H. J. Andersen started a monthly "Woods Note" mimeograph covering forestry program activities and subject matter developments applying to the Northeastern District. Seven issues were sent in 1956.

The district specialists helped county agents plan and prepare fair exhibits for the following fairs: Surry County, Mount Airy; Dixie Classic Fair, Winston-Salem; Caldwell County Fair, Lenoir; Catawba County Fair, Hickory. All district specialists prepared and sent

circular letters to their agents throughout the year on program activities such as, tree seedling supply, 4-H forestry camp, demonstration contest regulations and elimination, and the like.

In the radio and television activity phase, Forestry Extension Specialist F. E. Whitfield has a monthly radio program over the Brevard radio station in Transylvania County. Forestry Extension Specialist John H. Gilliam of the Northwestern District helped prepare TV programs on shade tree management for Rockingham, Guilford and Forsyth Counties and helped agents prepare and present radio programs in Alleghany, Forsyth, Surry and Person Counties covering forest planting, forest management and the Governor's fire conference. Forestry Extension Specialist Ross S. Douglass helped Hoke County prepare a TV program on post treatment and worked with the Sampson County agent in preparing and presenting a radio program on soil bank.

District Forestry Extension Specialist H. J. Andersen prepared 50 taped radio programs and 6 television programs in cooperation with county agents in his district.

In addition, Mr. Andersen prepared three slide talk program kits for use by agents in his district during 1956.

IV. Contribution to Regional Extension Program

In 1956, Extension Forester Gray served in the following capacity on several instances towards furthering the program on a regional or national basis:

- A. Represented the Agricultural Extension Service at the American Forestry Association annual meeting at La Plata, Maryland, in October. Gray was

one of three speakers on the first morning's program, discussing the topic, "The Small Woodland Picture as Viewed by Extension."

- B. Gray served as chairman of the Southeastern Extension Forestry Council during 1956. Considerable time was put on planning a meeting of the extension forestry personnel in these states to be held at College Park, Maryland. However, the Southern Extension Directors turned the request for this meeting down due to prior commitments to other subject-matter groups. A policy has been worked out for rotating subject-matter groups on regional meetings, and 1958 has been set by the Southern Extension Directors as the year in which forestry subject-matter personnel in the Southern states can get together.
- C. The new extension forester for the state of Virginia, Mr. Carl Holcomb, spent two days in Raleigh at the beginning of the 1956 program year. During these two days he and Gray discussed in detail presentation of the way the program was set up in North Carolina, goals established, working relationships, administrative and supervisory techniques, etc.
- D. Gray served as speaker at a four-state Southern Pulpwood Conservation Association meeting on the subject, "The Service Offered Small Woodland Owners by Extension."
- E. Copies of "Fam Forestry Facts," the "Tarheel Timber Market," material prepared on soil bank, etc., are distributed regularly to all extension foresters in the Southern states. The planting flip charts prepared the previous year were distributed to all extension foresters, and several requested that slide sets be made of them for their use. One extension forester, Ivan R. Martin of Alabama, used the flip charts to prepare his own set of slides. Similarly, a sample of the new

timber scale stick was given to all extension foresters in the South, and a letter accompanied this describing how it was made up, who manufactured it for us, and how much it cost.

V. Special

A. During the year program activities and accomplishments in certain special fields were as follows:

1. Farm and Home Development - In 1956, this department continued a program feature started in 1955, to help strengthen the ability of agents to make woodland examinations and help Farm and Home Development families decide what to do to use their woodland for supplemental income, build up its productivity, etc., under a standard situation. This feature is a one-day woodland analysis training school held on the individual-county level, generally on a Farm and Home Development farm, for members of the county extension staff.

In 1956, these schools were held in the following Farm and Home Development counties: Cleveland, Lincoln, Macon, Madison, Sampson and Onslow.

Forestry Extension Specialist E. M. Jones reports that in 1955, agents in Cleveland and Lincoln Counties devoted a total of only 55½ days to forestry. In 1956, after woodland analysis training schools were held, they devoted a total of 87½ days to forestry.

Case history examples of experiences of Farm and Home Development families who have been following forestry recommendations with favorable results, are as follows:

- a. Mr. Snow, a Farm and Home Development farmer of Yadkin County, in the fall of 1956, under guidance from F. H. D. Agent Dwight

Williamson, began thinning a 5-acre stand of 50-year-old short-leaf pine which he owned. He is removing about a third of the volume in an improvement-type cutting. He has bought a chain saw and fixed up an old car into a pickup-type truck for hauling pulpwood out of his woods and for snaking logs. He is realizing about \$10 per day for his labor over and above the stumpage value of the products removed. Altogether, counting labor income, he is grossing around \$150 per acre from this operation.

In Rockingham County, F. & H. D. farmer Butler is cutting enough timber off his 15-acre woodlot to build a new dwelling and also a chicken house. Forestry Extension Specialist J. H. Gilliam says that Mr. Butler will have approximately \$500 worth of sawtimber and pulpwood left over which he can sell and use the money to buy equipment. Mr. Gilliam helped F. & H. D. Agent W. F. Wilson mark a demonstration plot, and they marked enough sawtimber to cut lumber for the dwelling. Mr. Butler plans to mark the balance of the stand and do his own cutting, harvesting both sawlogs and pulpwood. He is leaving a very good stand of crop trees and should be able to harvest again in about five years.

In Sampson County one Farm and Home Development family found it necessary to move to another county for personal reasons. They put up the merchantable timber on their farm for sale and were dissatisfied with the price offered. Forestry Extension Specialist R. S. Douglass assisted the Farm and Home

Development agent to make an estimate of the amount of timber on the woodland, 65,000 board feet was found, and the owners obtained \$2,000 more by selling timber separate and then selling the farm over their previous top offer on a combination basis.

Raymond Bullock, a Negro Farm and Home Development farmer in Nash County owns about 90 acres of woodland. On 25 acres of this a timber buyer offered him \$1,000 for all of the pine timber. The Farm and Home Development Negro agent in Nash County called on Forestry Extension Specialist Jim Andersen for assistance. Mr. Andersen examined the woods with Raymond Bullock, recommended that he disk the area before cutting so that it would be restocked with young pine; and Bullock agreed to do so provided he could earn enough additional income from the woods to pay for the operation.

Mr. Andersen contacted State Service Forester Grady Harris of Rocky Mount and worked with him in selecting and marking trees to be cut. About a thousand dollars' worth of seed trees were reserved. Bullock received \$4,000 for the marked timber, \$3,000 more than the original price offered for all of it, and carried out his promise to do the diskings job.

2. Marketing

In 1956, a forest products buyers directory for North Carolina was published by the North Carolina Division of Forestry. This had been planned jointly by the Division of Forestry, the Southeastern Forest Experiment Station, and the Extension Service in 1955.

One copy of this new directory, together with a letter explaining how to use it, its limitations, etc., and suggesting that where needed the agent could pull the list for his county and mimeograph it for distribution to landowners, was sent to each white and Negro agent's office.

Other marketing activities will be described in a separate report for the A. M. A. forestry extension marketing project.

B. Program Projection

In 1955, two counties in each extension district - 12 counties in all - were selected as pilot counties in program projection. The state-level specialists prepared forestry situation, income possibility, and activity need statements for some of these counties as samples for guidance of district specialists in preparing additional ones.

In 1956, all counties in the state carried out a program projection analysis. District forestry extension specialists prepared individual-county forestry situation, forestry possibility, program need, and suggested goals statements. They sent these to the agent in each case, and in some counties they were asked to participate in program projection committee discussions.

By and large, these were well received by both agents and program projection committees. The reaction by districts was as follows:

Northeastern District

Agents who had not been too active forestry-wise were stimulated considerably as a result of the potential income phase of the reports prepared by this specialist. The reports did more good for the agricultural workers than they did for the non-professional members of

the program projection committee in each county. Three counties requested this specialist to take part in follow-up meetings and elaborate on and explain the situation and potentials as outlined in the forestry program projection statement for the county.

Southeastern District

Forestry Extension Specialist Ross S. Douglass participated in county workers' conferences on program projection in Bladen, Robeson, Hoke and Duplin Counties, pointed out specific material in the reports that might be used, and suggested ways of using it. He did not meet with any program projection committees since the district agent had advised that it would be best for specialists to stay out of these, with the idea that local leaders might talk more freely if no outsiders were present.

Northwestern District

Forestry Extension Specialist John Gilliam reports that most of his agents reacted to the program projection statements he sent them by setting up forestry goals on which they plan to follow through from year to year.

Southwestern District

Forestry Extension Specialist E. M. Jones reports that the agents in his district were very favorably impressed with the statements he sent them and that he attended program project committees in Mecklenburg, Gaston and McDowell Counties at the request of the agents.

Western District

Forestry Extension Specialist F. E. Whitfield likewise reported that his agents reacted very favorably to these statements, but he

reports no specific county assistance other than the preparation of
them.

1956 was a busy and fruitful year.

Exhibit A

EXTENSION FORESTRY GOALS AND ACCOMPLISHMENTS - 1956

District	Total number of counties	Forestry Camp 1 delegate each county	Demonstration competition $\frac{1}{2}$ of counties in district	District entrant in state competition	4-H Goals		
					10% increase in white 4-H forestry project completions	5 long-time 4-H forestry records per district	
					Total 1955	Total 1956	No. received
Eastern	16	14	6	x	196	292	2
Northeastern	18	17	7	x	541	599	5
Southeastern	17	17	5	x	622	695	4
Northwestern	17	15	5	x	632	609	5
Southwestern	17	15	8	x	796	798	5
Western	15	15	9	x	770	748	3
State total	100	93	40	6	3557	3741	24

Exhibit A, Cont.

EXTENSION FORESTRY GOALS AND ACCOMPLISHMENTS - 1956

District	Farm & Home Development		Adult Goals			
	Write up 5 narratives on FHD families	Woodland analysis training school each original FHD county	Roadside signs average 1½ per county	Long-time cooperators - 5 per district	Hardwood conversion demonstrations - 1 per county where needed	
	No. written up	No. held	No. ordered	No. set up	No. established	
Eastern		1	2	2 (2)		
Northeastern	5		12	7 (19)	14 (54)	
Southeastern		1	10	2 (2)	6 (9)	
Northwestern				2 (2)	4 (4)	
Southwestern	1	2	5	4 (5)	6 (6)	
Western		2	2	5 (5)	5 (9)	
State total	6	6	31	22 (35) counties cooperators	35 (82) counties cooperators	

Exhibit B

STATISTICAL SUMMARY - 1956

Item	Specialist										Total
	Gray	Smith	Keller	Ellison	Andersen	Douglass	Gilliam	Jones	Whitfield		
1. Days in office	195.6	101.0	161.0	114.9	35.0	89.1	55.1	71.0	86.5	909.2	
2. Days in field:											
With agents	38.1	19.0	68.5	53.2	221.0	112.9	65.4	202.0	151.5	931.6	
With others	54.3	27.0	62.0	44.9	40.0	87.5	32.5	12.0	44.5	404.7	
Sub-total - (2)	92.4	46.0	130.5	98.1	261.0	200.4	97.9	214.0	196.0	1,290.3	
3. Holidays taken	10	5	8	8	10	10	3	10	10	74	
4. Annual leave	14	7	11.5	12	6	4	1	13	9.5	78	
5. Sick leave			3	3				6		9	
6. Military leave						12			12	24	
Sub-total - (3, 4, 5, 6)	24	12	22.5	23	16	26	4	29	31.5	188.0	
Grand total (1 to 6)	312.0	159.0	314.0	236.0	312.0	315.5	157.0	314.0	314.0	2,433.0	
Total number of individual meetings	96	40	51	20	32	65	57	48	75	540	
Total attendance	2,697	1,260	2,162	535	989	3,055	2,286	1,204	2,934	18,559	

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF NORTH CAROLINA

NORTH CAROLINA STATE COLLEGE OF
AGRICULTURE AND ENGINEERING
NORTH CAROLINA COUNTIES AND
UNITED STATES DEPARTMENT OF
AGRICULTURE COOPERATING

EXTENSION SERVICE
HOME DEMONSTRATION WORK

State College Station
Raleigh, N. C.
June 15, 1956

To: All District Agents, County Agents and
Assistant County Agents
From: Extension Forestry Department
Subject: Final summary of seedlings ordered through Extension personnel,
1955-56 planting season

Gentlemen:

This past winter a total of 5,798,000 forest tree seedlings were ordered on application blanks distributed by Extension personnel. This is just 19,000 less than the record number placed by Extension personnel last year. In view of the serious shortage of white pine for the western counties and the tightening up of terms for free trees to adults under the International Paper Company offer, we believe this has been a very successful year.

This season Extension personnel placed 48% of the total number of orders, as compared to 40% last year, and 15% of the total number of trees ordered.

In the 4-H free-seedling program sponsored by North Carolina Pulp Company in the eastern counties, 500 club members received a total of 794,000 seedlings.

In the western Piedmont and eastern mountain counties where Champion Paper and Fibre Company makes free seedlings available to club members, 243 4-H'ers received 305,000 seedlings. Champion's participation in this was decreased this year due to a shortage of white pine.

In the truck-haul radius of International Paper Company's wood yards, where this company made free seedlings available to adults on a matching basis this year, 205 adult landowners received 647,275 seedlings.

In the Western District where seedlings are available without charge through the Tennessee Valley Authority, 597 farmers and 179 4-H Club members received a total of 587,000 seedlings.

In addition to free seedlings, 619 adults and club members bought 2,464,950 seedlings from North Carolina Division of Forestry nurseries on Extension credit line order blanks.

In 18 counties, Extension personnel were responsible for placing over 100,000 seedlings. Scotland County led with a total of 407,500, followed by Cherokee with 375,500, and Montgomery with 341,700.

With respect to number of orders placed, Cherokee ranks first with 152, Bladen, second with 107, and Scotland, third with 91.

Moore County led all the rest in tree planting by 4-H Club members with 80,000 free trees ordered. Rutherford ranks second with 77,500, and Bladen third with 72,200.

Bladen stood first in number of L-H Club members ordering trees with 44, Rutherford, second with 40, and Robeson, third with 28.

The Southeastern District stood head and shoulders above any other in number of trees ordered, with 2,341,750. The Western District led in total number of orders placed, with 786.

The following shows tree orders received on Extension credit line blanks by counties and districts:

EASTERN DISTRICT

County	Free L-H Trees		Purchased Trees		Free Trees to Adults		County Total	
	Applications	Seedlings ordered	Applications	Seedlings ordered	Applications	Seedlings ordered	Applications	Seedlings ordered
Beaufort	1	5,000	7	8,000			8	13,000
Camden			1	500			1	500
Carteret			2	12,700	1	5,000	3	17,700
Chowan	5	12,100	1	800			6	12,900
Craven			3	4,100	1	2,500	4	6,600
Currituck	3	4,000					3	4,000
Dare			1	2,000			1	2,000
Gates								
Hyde								
Jones			4	11,000	2	6,000	6	17,000
Onslow			5	14,900			5	14,900
Pamlico	2	3,500					2	3,500
Pasquotank								
Perquimans			4	7,500			4	7,500
Tyrrell								
Washington			1	500			1	500
District totals	11	24,600	29	62,000	4	13,500	44	100,100

NORTHEASTERN DISTRICT

County	Free L-H Trees		Purchased Trees		Free Trees to Adults		County Total	
	Applications	Seedlings ordered	Applications	Seedlings ordered	Applications	Seedlings ordered	Applications	Seedlings ordered
Bertie	3	2,000					3	2,000
Edgecombe			2	1,500			2	1,500
Franklin	19	20,500	3	4,600			22	25,100
Granville	8	20,000	2	8,000			10	28,000
Greene			1	2,000			1	2,000
Halifax	3	7,050	2	20,000			5	27,050
Hertford			4	29,500			4	29,500
Johnston	8	5,500	6	25,000			14	30,500
Lenoir	1	500	11	6,650	1	3,000	13	10,150
Martin			4	4,500			4	4,500
Nash	3	2,000	2	1,500			5	3,500
Northampton	7	12,000	5	45,500			12	57,500
Pitt	3	7,000	5	7,510			8	14,510
Vance	9	6,800	1	515			10	7,315
Wake	5	4,000	8	15,100	2	17,000	15	36,100
Warren	1	2,000	1	6,000			2	8,000
Wayne	3	2,500	14	78,500			17	81,000
Wilson	1	500	1	2,000	1	2,000	3	4,500
District totals	74	92,350	72	258,375	4	22,000	150	372,725

SOUTHEASTERN DISTRICT

County	Free 4-H Trees		Purchased Trees		Free Trees to Adults		County Total	
	Appli-	Seedlings	Appli-	Seedlings	Appli-	Seedlings	Appli-	Seedlings
	'cations'	ordered	'cations'	ordered	'cations'	ordered	'cations'	ordered
Anson	18	27,500'	19	130,500'	13	39,000'	50	197,000
Bladen	44	72,200'	34	82,500'	29	59,000'	107	213,700
Brunswick	6	12,000'	5	16,000'	4	15,000'	15	43,000
Columbus	18	14,500'	7	23,650'	2	1,000'	27	39,150
Cumberland	10	24,000'	14	51,500'	5	13,000'	29	88,500
Duplin	10	25,000'	6	31,900'	1	5,000'	17	61,900
Harnett	13	12,600'	13	22,800'	5	15,000'	31	50,400
Hoke	13	22,500'	22	90,500'	13	50,000'	48	163,000
Lee	3	6,000'	5	67,000'			8	73,000
Montgomery	16	22,000'	36	216,700'	24	103,000'	76	341,700
Moore	24	80,000'	19	164,100'	6	24,500'	49	268,600
New Hanover			3	4,000'			3	4,000
Pender	6	8,500'	4	19,000'	2	1,500'	12	29,000
Richmond	15	20,500'	23	86,100'	20	63,000'	58	169,600
Robeson	28	31,800'	8	40,600'	4	17,500'	40	89,900
Sampson	18	32,500'	22	69,300'			40	101,800
Scotland	24	48,500'	39	269,000'	28	90,000'	91	407,500
District totals	266	460,100'	279	1,385,150'	156	496,500'	701	2,341,750

NORTHWESTERN DISTRICT

County	Free 4-H Trees		Purchased Trees		Free Trees to Adults		County Total	
	Appli-	Seedlings	Appli-	Seedlings	Appli-	Seedlings	Appli-	Seedlings
	'cations'	ordered	'cations'	ordered	'cations'	ordered	'cations'	ordered
Alamance	1	500'	6	24,500'			7	25,000
Alleghany	20	22,000'	5	33,000'			25	55,000
Ashe	2	2,000'	2	3,000'			4	5,000
Caswell	4	15,000'	5	20,000'	1	4,000'	10	39,000
Chatham	23	40,500'	6	6,775'	10	29,275'	39	76,550
Davidson	11	14,500'	4	4,000'			15	18,500
Durham			6	14,000'			6	14,000
Forsyth	5	3,000'	4	10,000'			9	13,000
Guilford	4	4,000'					4	4,000
Orange	19	11,500'	4	19,900'	2	10,000'	25	41,400
Person	8	13,000'	2	3,000'			10	16,000
Randolph	11	22,300'	11	26,500'	9	25,000'	31	73,800
Rockingham	12	6,500'	9	56,000'			21	62,500
Stokes	10	8,500'	1	6,000'			11	14,500
Surry	9	6,500'	3	10,000'			12	16,500
Wilkes	13	15,000'	6	25,000'			19	40,000
Yadkin	6	6,500'	1	1,800'			7	8,300
District totals	158	191,300'	75	263,475'	22	68,275'	255	523,050

SOUTHWESTERN DISTRICT

County	Free 4-H Trees		Purchased Trees		Free Trees to Adults		County Total	
	Appli-	Seedlings	Appli-	Seedlings	Appli-	Seedlings	Appli-	Seedlings
	'cations'	ordered	'cations'	ordered	'cations'	ordered	'cations'	ordered
Alexander	1	2,000'	2	10,500'			3	12,500
Burke	26	29,000'	6	19,500'			32	48,500
Cabarrus	7	5,500'	12	23,000'	7	15,000'	26	43,500
Caldwell	17	17,500'	4	24,500'			21	42,000
Catawba	10	14,500'	5	15,500'			15	30,000
Cleveland	22	26,000'	5	6,500'			27	32,500
Davie	6	11,500'	5	9,000'			11	20,500
Gaston	15	25,500'	4	9,500'			19	35,000
Iredell	17	23,500'	7	10,700'			24	34,200
Lincoln	25	24,500'	11	45,000'			36	69,500
McDowell	4	4,000'	5	7,500'			9	11,500
Mecklenburg	5	7,600'	30	97,000'	3	12,000'	38	116,600
Polk	9	13,500'	5	6,450'			14	19,950
Rowan	12	11,550'	3	1,500'			15	13,050
Rutherford	40	77,500'	26	111,800'			66	189,300
Stanly	3	3,500'	3	4,000'			6	7,500
Union	15	33,500'	11	24,000'	9	20,000'	35	77,500
District totals	234	330,650'	144	425,950'	19	47,000'	397	803,600

WESTERN DISTRICT

County	Free L-H Trees		Purchased Trees		Free Trees to Adults		County Total	
	Appli-	Seedlings	Appli-	Seedlings	Appli-	Seedlings	Appli-	Seedlings
	cations	ordered	cations	ordered	cations	ordered	cations	ordered
Avery	8	5,000	1	10,000	18	45,000	27	60,000
Duncombe	1	1,000	3	5,500	56	103,500	60	110,000
Cherokee	24	27,500			128	348,000	152	375,500
Clay	10	10,000			34	127,000	44	137,000
Graham	25	12,500			2	3,500	27	16,000
Haywood	8	9,000	1	5,000	34	82,500	43	96,500
Henderson	13	12,500	2	6,000	22	70,500	37	89,000
Jackson	10	8,500			43	92,000	53	100,500
Macon			1	3,000	42	109,000	43	112,000
Madison	7	7,500			27	58,500	34	66,000
Mitchell	23	9,000			9	101,000	32	110,000
Swain	15	8,500	2	5,500	55	95,500	72	109,500
Transylvania	13	12,500			59	112,500	72	125,000
Watauga	19	13,400			53	61,600	72	75,000
Yancey	3	6,000			15	34,000	18	40,000
District								
totals	179	142,900	10	35,000	597	1,444,100	786	1,622,000
State								
totals	922	1,241,900	619	2,464,950	802	2,091,375	12,343	15,798,225

Exhibit D

STATE AND DISTRICT TRENDS - NORTH CAROLINA
PROPORTION OF WORK TIME DEVOTED TO FORESTRY
ALL WHITE MALE COUNTY WORKERS

Area	Years										
	1950	1951	1952	1953	1955	1956	1957*	1958	1959	1960	
Eastern District	2.3	2.4	2.5	2.5	3.0	3.2					
Northeastern District	3.6	3.7	3.7	4.2	4.4	4.7					
Southeastern District	2.7	2.6	2.9	1.7	3.5	4.5					
Northwestern District	3.6	3.3	2.9	2.6	2.7	2.8					
Southwestern District	2.5	2.7	2.4	2.2	3.3	3.2					
Western District	3.1	3.5	4.2	3.8	4.2	4.1					
State-wide	3.09	3.13	3.14	2.91	3.55	3.75					
Prior to 1957, days devoted to forestry included wildlife conservation. In 1957, only forestry time is listed.											
Excluding Counties Which Had Foresters Employed as Assistant County Agents											
Eastern District	2.3	2.4	2.5	2.5	3.0	3.2					
Northeastern District	2.3	2.3	2.5	3.1	3.7	4.6					
Southeastern District	2.7	2.6	2.9	1.7	3.5	4.5					
Northwestern District	2.3	2.6	2.2	2.2	2.1	2.4					
Southwestern District	2.5	2.7	2.4	2.2	3.3	3.2					
Western District	3.1	3.5	4.2	3.8	4.2	4.1					
State-wide	2.56	2.67	2.75	2.55	3.26	3.73					