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NORTH CAROLINA

AGRICULTURAL EXTENSION SERVICE

ANNUAL REPORT

for

1955.

Period covered: December 1, 1954 to November 30 1955.

Name of Project: Farm Forestry Extension Work

Covering work done by J. L. Gray, In Charge, Forestry Extension; G. W. Smith, Assistant Extension Forester; and District Forestry Extension Specialists W. T. Ellison, Jr., J. H. Phillips, Jr.,[1] H. J. Andersen,[2] R. S. Douglass, W. M. Keller, E. M. Jones and F. E. Whitfield

Percentage of time devoted to project: 100

Date Submitted: 3/17, 1956. Signed: John L. Gray
Project Leader

Date Approved: 3/19, 1956. Signed: C. B. Ratchford
Asst. State Director of Extension Work

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

1/ To February 28, 1955
2/ Beginning June 1, 1955

ANNUAL REPORT

FARM FORESTRY EXTENSION WORK

NORTH CAROLINA

December 1, 1954 - November 30, 1955, Inclusive

John L. Gray, In Charge, Forestry Extension
George W. Smith, Assistant Extension Forester

David S. Weaver, Director

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

State College Station
Raleigh, N. C.

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FARM FORESTRY EXTENSION - HIGHLIGHTS OF 1955

1. Tree Planting - Extension personnel were directly responsible for placing orders for a record 5,529,575 forest tree seedlings with farmers and 4-H Club members. This was a record year and a 26% increase over the number of trees placed last year.

   This year Extension personnel were responsible for placing 61% of all trees planted by farmers and farm youth.

2. Management - Use of crawler-drawn equipment to eradicate brush and stimulate pine regeneration was emphasized through establishing 1200 acres in nine northeastern counties.

3. Roadside Demonstrations - This program was inaugurated in 1955. By the end of the year six areas had been marked with large, attractive sign units and eleven orders were in process.

4. 4-H Camp and Awards Program - This program, featuring project participation, demonstration participation and a leadership training camp, was inaugurated in 1955, in cooperation with the Southern Bell Telephone and Telegraph Company. As a result, 4-H forestry project completions jumped 20% over 1954, demonstration contests and participation in forestry demonstration contests doubled. A total of 90 out of the state's 100 counties sent an outstanding 4-H boy to the first week-long 4-H forestry leadership training camp.

   One thousand two hundred forty-eight club members planted a total of 2,241,700 forest tree seedlings - an increase of 47% over the number planted in 1955.

5. Farm and Home Development and Long-Time Cooperators - Extension forestry specialists developed woodland analysis training school techniques for use at the county level in Farm and Home Development counties. A start was also made towards developing a small number of outstanding continuous demonstrations of well-rounded farm woodland management.

6. Program Activities - All 100 counties participated in helping 36,350 different farmers and other individuals to adopt one or more recommended forestry practices. A total of 35,016 4-H Club members were given some forestry training.

   Extension forestry specialists assisted with a total of 606 field and indoor meetings during 1955, attended by 25,376 farmers, 4-H Club members and others.

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FARM FORESTRY EXTENSION WORK

NORTH CAROLINA

John L. Gray, In Charge, Forestry Extension
George W. Smith, Assistant Extension Forester

I. Introduction and Background

Farm woodlands in North Carolina are a major factor in the farm and forest economy of the state. According to the recently completed timber resource review conducted by the U. S. Forest Service, as of January 1, 1953, farmers owned 69% of all the state's forest land - a total of 13,590,000 acres. North Carolina ranks second in the Nation only to the state of Georgia in farm woodland acreage.

Woodland makes up part of the land area of about seven out of every ten farms in North Carolina - 200,176 out of a total of 288,508. In 1949, woodland made up 50% of the total farm acreage.

Farmers in 1953, reported selling around $15,660,000 worth of forest products. In addition, it is estimated that each year North Carolina farmers harvest about $11,500,000 worth of forest products for use in farming operations. The total annual harvest based on farmer reports, therefore, is about $27,160,000 - an average of slightly over $2 per farm forest acre.

Since farmers are the major forest land-owning group and, by and large, own woodland which is most accessible for harvesting operations, the

wood-using industries in North Carolina are dependent on these woodlands for the major supply of their raw material requirements. These industries are a major factor in the state's industrial economy, ranking second in the state in the number of persons employed and third in annual value of products sold. The very existence of these industries is dependent upon the productivity of these farm woodlands.

These woodlands are also important in controlling erosion, equalizing stream flow, and providing food and shelter for game birds and animals.

Although recent survey reports for different areas of the state indicate that timber supply and demand are very nearly in balance and in two areas growth is exceeding drain slightly, overall farm forest productivity is low. Economic studies indicate that the farm woodland areas in fully productive condition under systematic management and protection can be expected to produce from $3 to $14 worth of products each year for sale, depending on timber type and growing conditions, and also provide material for use on the farm. According to farmer reports, the average farm woodland acre in North Carolina is producing only about a third to forty per cent as much income and materials as could be realized under a reasonably good level of management practice.

Building farm woodland productivity requires very little cash investment, particularly where the owner is able to do his own work. Recent developments in converting scrub oak-type land under Coastal Plain and Sandhill conditions, indicate that most landowners can put such land into pine at out-of-pocket costs of from $4 to $10 per acre, including all labor and contractual service and planting stock. In other areas the use of labor at the

rate of a half-man day to a day per acre per year would be the major requirement to establish and conduct an enterprise that would yield from $3 to $10 per acre per year net income before taxes.

Owners not able to perform or supervise the work activities involved can do much to build up their forest earnings through securing services of public foresters, private consulting foresters, and contractors to carry out jobs such as planting trees, eradicating scrub hardwoods, and the like. Through careful management in making sales they can have improvement cuttings, thinnings, and selective cuttings carried out by timber buyers.

Progress is being made. Timber prices have been increasing, while prices for some other major farm production items have been going down somewhat in recent years; and growing timber as an income-producing enterprise is looking more and more attractive to farm people. The majority, however, have not yet consciously adopted a continuing timber production program on their own land. There are three main reasons for this:

1. They do not fully appreciate or understand how much their own woodland can produce in terms of income and other benefits under a continuous timber-growing program. Therefore, they are tempted to get every dollar they can through sacrificing all commercial trees when the opportunity presents itself to do so.
2. Although certain practices such as timber thinning and tree planting are becoming fairly well known and lend themselves to standardization, the combination and timing of practices needed

to do a successful job in each individual case often requires professional knowledge and skill. Many farmers have taken some elementary steps toward building woodland productivity but have not attempted to work out, or have worked out, a continuous practical plan of operation.

3. As youngsters the farm adults of today received little or no training in timber-growing methods and were not brought up to grow, harvest, and care for timber as a crop. Therefore, the idea and habit of doing so has to be sold to them.

II. Program Objectives

On the county level the county agents are responsible for the forestry extension program. The job of the extension forestry specialist is to encourage, train, assist and, in some cases, lead the county agents, their local leaders and other cooperators to plan and conduct a forestry extension program which will in the shortest possible time accomplish the following main objectives:

A. Help all farm woodland owners and operators who are in a position to manage their forest holdings to realize what benefits they will receive under local conditions from carrying out a continuous timber production program.

B. To develop their understanding of the practices needed to bring into fully productive condition every acre of woodland and every acre of idle land on their farms which are best suited for timber growing.

C. To show them how to apply such practices or otherwise get them carried out in their own woodland.

D. To create a strong desire on their part to adopt a timber-growing program

suited to their own needs.

E. To create an appreciation on the part of farm youth of the important contributions forest trees and forests make to the individual farmer, farm, community, county, state, and nation. To train farm boys and girls to carry out improved forest practices on the home farm so that they can do a successful job when they become farm forest owners.

The balance of this report will be devoted to showing what farm forestry extension personnel did during the 1955 program year to help county extension personnel carry out these objectives.

III. Organization and Personnel

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

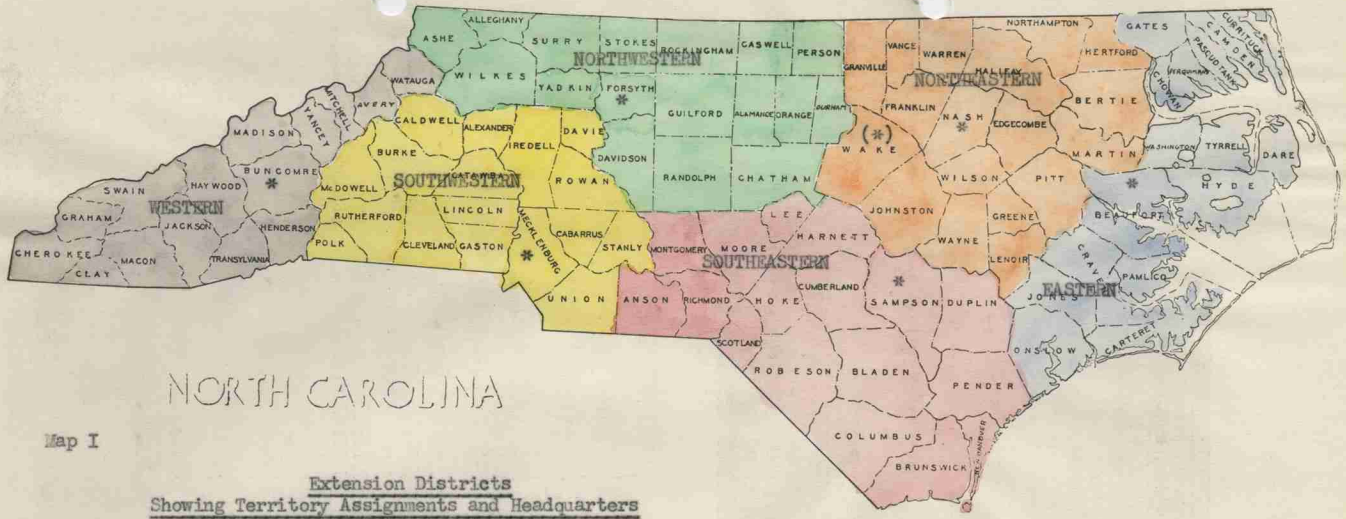
Farm forestry extension work is under the general supervision of Mr. David S. Weaver, Director of the North Carolina Agricultural Extension Service.

The following personnel were employed during the program year:

State Level:
John L. Gray, In Charge, Forestry Extension, State College, Raleigh
George W. Smith, Assistant Extension Forester, State College, Raleigh

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

Eastern District - W. T. Ellison, Jr., Washington



Map I

Extension Districts
Showing Territory Assignments and Headquarters
for Forestry Extension Specialists

(*) State headquarters
* District headquarters

Northeastern District - J. H. Phillips, Jr., and H. J. Andersen, Nashville
(Mr. Phillips resigned effective February 28, 1955, to accept a position with an insurance company. Mr. Andersen was appointed to replace him effective June 1, 1955.)
Southeastern District - R. S. Douglass, Clinton
Northwestern District - W. M. Keller, Winston-Salem
Southwestern District - E. M. Jones, Charlotte
Western District - F. E. Whitfield, Asheville

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

IV. Major Activities and Results

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

B. Forest Planting

1. Results - During the 1954-55 planting season a total of 26,880,145 trees were ordered by North Carolina landowners from nurseries operated by the North Carolina Division of Forestry and the Tennessee Valley Authority. This was a record year in number of trees planted in the state. The number of trees planted in this particular planting season exceeded by 49% those planted in the 1953-54 planting season.

Farmers, 4-H Club members, F. F. A. boys and other private non-industrial landowners ordered 42% of the total number of trees, or 11,236,950. Out of this total ordered and planted by farm people, 5,529,575 seedlings were ordered on application blanks distributed

by the Agricultural Extension Service and carrying a credit line to that effect.

Thus, Extension personnel were directly responsible for placing approximately 50% of all the trees ordered by non-industrial private landowners and farm people. This was a record year in respect to the number of trees placed by Extension personnel.

A total of 2,321 farmers and 4-H Club members ordered trees on Extension application blanks, as follows:

1,073 adults ---------- 3,287,875
1,248 4-H Club members - 2,241,700

In the case of 4-H Club members, this was a record year in the number of trees planted. The number of trees planted by 4-H Club members during the 1954-55 planting season exceeded by 45% the record-high of the previous planting season.

In the 1955 plan of work, an overall tree planting goal of 5 million trees to be planted by farmers and 4-H Club members was set for the '54-55 planting season. We went beyond this objective by planting a total of 5,529,595 tree seedlings.

In 17 counties county Extension personnel were responsible for placing over 100,000 trees with farm people and 4-H Club members. This compares with only ten counties passing the 100,000 mark in 1953-54. This amounts to a 70% increase in number of counties. County Extension personnel in all 100 counties reported helping 8,107 persons with planting assistance. In 97 counties agents placed a total of 2,321 orders during the 1954-55 planting season. There were only three counties in which county agents failed to place orders.

More orders for a greater number of trees would have been filled had it not been for the fact that the planting stock supply at the State Division of Forestry nurseries was completely exhausted by the middle of February or that period which we commonly think of as being the peak period for tree orders from farmers and 4-H Club members. The supply of white pine seedlings from both the state and T. V. A. nurseries was completely exhausted in early January. In spite of short supply, we still enjoyed the greatest tree-planting year in the state's history.

County, district, and state planting summaries will be found in the Statistical Summary section of this report.

2. State and Area Activities - In the early fall, state-level personnel made arrangements with two paper companies to purchase 1,500,000 seedlings from the State Division of Forestry for free distribution to 4-H Club members through county Extension personnel. In 66 eastern Piedmont and Coastal Plain counties any 4-H Club member could order and receive up to 5,000 pine seedlings free of charge through the courtesy of North Carolina Pulp Company located at Plymouth, North Carolina. This company purchased 1,000,000 seedlings from the state nursery for distribution through the county agents to 4-H boys and girls in this area. The same type of offer applied to club members living in 20 Piedmont counties through the sponsorship of Champion Paper and Fibre Company, Canton, North Carolina. Champion purchased a total of 500,000 white and shortleaf pine for distribution to 4-H.

International Paper Company of Georgetown, South Carolina, purchased 750,000 pine seedlings for free distribution through county

agents and woodyard operators to adult landowners in 32 counties from which they draw pulpwood. A limit of 5,000 trees to any one applicant applied here, also. A limit of 50,000 trees was placed on Montgomery County in this special offer because in 1953-54 this county ordered 164,105 trees out of the International offer. The limit was set in order to insure a fairer distribution of the trees to the 32 specified counties.

After conferences with the State Division of Forestry nursery managment personnel, application blanks, plus letters explaining terms of free offers, were sent to all county extension workers in September. This information also went to district supervisors and to members of the state 4-H staff.

Starting at the end of November, a monthly summary showing number of trees ordered by all parties, 4-H and adult was prepared and sent to all male personnel of the Extension Service except specialists in fields other than forestry. This represents an improvement over last year when only 4-H orders were reported monthly. In addition to these monthly progress reports, letters were sent at various intervals keeping county personnel up to date on supply and recent developments affecting the seedling situation.

3. County-Level Activities - Further reduction in cash crop acreage has resulted in increased planting interest throughout the state, especially in the eastern section. A recent survey of land-use in this area indicates that the land-clearing era has run its course, at least for the present.

While only a small number of landowners in this area have definitely concluded that planting forest tree seedlings is a plausible answer to their dilemma, the following example typifies their course of action:

H. J. Andersen, Northeastern forestry extension specialist, reports that Mr. Sidney Randolph, a large landowner in Halifax County, found that cash crop acreage allotments on one of his farms was inadequate to support the families required to grow them. He planted 50 acres of cleared land by machine with 50,000 loblolly pine seedlings. He says that his total cost of planting was $10.00 per acre and he will recover $8.00 per acre A. C. P. payments. Another large landowner in Hertford County is planting 40,000 loblolly pines for the same reason.

Demonstrations of tree planting machines have been held in a number of Coastal and Piedmont counties in the past three years. Commercial representatives have generally been called on to conduct these demonstrations at forestry field day programs, often in conjunction with other equipment demonstrations.

This year for the first time the Extension Forestry Department has a machine of its own for demonstration use. This machine is a Whitfield contour-type planter furnished to the department through the courtesy of the manufacturer. It is an implement which can be attached to any farm tractor equipped with a three-point hydraulic lift system. Farm tractors of medium to large size are required for adequate power to operate it.

The first demonstration of this machine was held on the Pine Ridge Community farm of Mr. Bryant Creed of Route 4, White Plains. Mr. Creed had a steep drainage area from one of his fields where the soil had begun to "gully out." He planned to sow a meadow strip down the middle of the drainage and tie down the sides with trees.

The tree planter was attached to Mr. Creed's tractor. John Gray, extension forester, and Walter M. Keller, Northwestern District forestry extension specialist, and Assistant County Agent Charles Earnest made a few trial runs to get the feel of the machine. Mr. Creed, of course, drove the tractor.

When time came for the demonstration, Mr. Earnest and Mr. Richard Boyce, a conservation forester for Champion Paper and Fibre Company, were given 100 white pine seedlings in a bucket of mud and a planting bar. They started in hand planting on one side of the 1 1/3 acres to be planted. John Gray, Walter Keller and the owner, Mr. Creed, started planting with the machine on the other side of the area.

It took Mr. Boyce and Mr. Earnest 35 minutes to plant 100 trees by hand. During the same time 392 were set by the three men with the tractor and mechanical planter. Putting it another way, production per man was over 3½ trees per minute with the machine and less than 1½ per minute with the hand tools. Considerable time was spent turning the machine around since the rows were short, averaging about 250 feet in length.

There was no doubt in the minds of those present that the machine was a great labor-saver in planting trees and could be put to practical

use in planting open areas as small as 1½ to 2 acres in size. There was little doubt, either, that it could be used just about anywhere a farm tractor could pull a turning plow.

Shortly after this demonstration, the forestry committee in Surry County, spearheaded by two pulpwood dealers, a banker, and the county agent, plus several prominent farmers, met several times and laid the groundwork for a long-range planting program for the county. The limited supply of white pine seedlings held this project up during this report year, but the two pulpwood dealers took on the job of raising the money to acquire a heavy-duty tree planter so that the program could be launched as soon as an adequate amount of planting stock becomes available.

Another mechanical tree planting demonstration similar to the one described above was conducted on the farm of Mr. R. L. Goins of the Pocket Community in Lee County. Mr. Goins helped Mother Nature complete a cycle.

Forty years ago Mr. Goins, a transplanted mountaineer, cleared up land for a small farm. He did the job by hand. It was hard work, but the crops of corn, cotton, and tobacco that have made a living for him and his family justified all he put into it. Timber was plentiful, anyhow, in those days; and the idea of growing trees as a crop would have been laughed at, even had he thought about it at the time.

Mr. Goins decided to plant part of the land he cleared 40 years back to trees. Erosion had been nibbling away at one 4-acre ridge-

top field in particular, and he was anxious to get it tied down.

Since certain leaders in Lee County had been investigating the possibility of buying a tree planting machine, County Agent Ken Harmon decided to let them see what a planting machine could do in comparison with hand methods.

Following each of these demonstrations, tree planting machines were purchased in both Surry and Lee Counties. There are now 19 machines available in 18 counties for farmer use, and these were placed as a result of demonstrations sponsored by the Extension Service in the past.

Tree planting is a popular forestry practice throughout the state. In western North Carolina tree planting continued at a very high level due to interest that has been generated through an intense educational program over the past seven years. This effort was probably best exemplified by the work done in Cherokee County at the beginning of the planting season. The county agent, a local pulp mill and a bank sponsored a luncheon with cooperating agencies and community leaders to initiate a county-wide tree planting program. At this meeting the vice-president of the bank appointed a chairman for each community in the county. This chairman was responsible for promoting the program with his own people. He saw to it that each farm family in his vicinity knew about the free seedlings and had an opportunity to order them. As a result of this effort, orders for 637,500 trees were filled; and applications for an additional 1,100,000 trees could not be filled due to the shortage of seedlings. In this county,

as in other upper Piedmont and mountain counties, planting activity is limited only by the number of white pine seedlings available from the public nurseries. The interest is there.

The acute shortage of seedlings in the white pine-growing counties caused much concern among farmers and forest industries alike. Actually this shortage prompted the Forestry Commission of the Asheville Agricultural Development Council to compile a report covering 33 western North Carolina counties where white pine is planted. This report showed that from 250,000 to 260,000 acres of land on farms need planting to white pine.

Further, the report stated that in the 1954-55 season there was an effective demand in these counties for 10 million trees but only 5 million were available.

A tree planting evaluation survey was conducted by personnel of this department in the summer of 1955. It consisted of visits to 10% of the 4-H Club members and adults who ordered free seedlings in the winter of 1954-55 to determine what percentage of these donated trees were planted and what percentage were living at the end of the first growing season. The results of this survey have not been compiled at this time but are to be analyzed in 1956.

With respect to Christmas tree planting, 750,000 red cedar seedlings were ordered and distributed during the 1954-55 planting season. Extension personnel accepted 163 applications for 271,500 seedlings (10% above '53-54), or approximately 36% of the total ordered. Due to the limited supply of red cedar, Christmas tree production did

not receive any special emphasis during this year.

Mr. C. C. Holyfield of Winston-Salem, a commercial photographer who bought two farms near Rural Hall and planted most of the land to red cedars during the past four years, marketed his first trees this winter. He has planted approximately 150,000 cedars during this period and 200 Chinese hollies for the production of Christmas greens. During the summer of 1955, Mr. Holyfield made a trip to Florida and got a contract from one of the largest chains of grocery stores to deliver them 1,000 cedars at $1.50 per tree. The stores had never handled red cedar, but they told Mr. Holyfield that if his trees sold well, they would be interested in taking his entire estimated annual production. Mr. Holyfield has faithfully followed the recommendations of Walter M. Keller, forestry extension specialist, and the county agent throughout this operation.

Assistance given to agents in county-level programs by extension forestry specialists was directed to a large extent towards promoting 4-H Club participation. This is described in the 4-H section of this report.

C. Management

1. Results - There are no figures available which will reliably indicate the progress being made in improving timber cutting practices and in overall farm woodland management. Farm woodland makes up a major portion of the state total. Therefore, recent forest surveys of three areas of the state indicate the following:

   a. In the South Coastal Plain over the past 18 years there has been a 10% drop in the supply of pine sawtimber, but an increase

in the amount of pine pulpwood and an increase in hardwood of of small to medium size. This report further stated, however, that in 1952, the year in which the report was published, timber growth in the area exceeded drain, both in sawtimber and total growing stock for all species, even though the drain level was only slightly less in that year than it had been when the previous survey was made in 1937.

b. The North Coastal Plain report issued in 1955, indicated that there was as much pine sawtimber volume as in 1937, an 8% increase in hardwood sawtimber volume, and an overall growing stock increase of some 8% over the 18-year period. The timber supply is building up in this area and is currently exceeding drain.

c. The report for the Mountain area showed increases in all growing stock classes except the yellow pine. Here, growing stock in 1955, was about the same as in 1938, while sawtimber volume had dropped 14%. In this area the softwoods, particularly yellow and white pine, are being overcut by about 16% each year. Other than this, however, timber supply is building up in this area.

Overall, therefore, so far indications are that the balance between drain and growth is much better than it was before World II. There are natural factors partly responsible for this; but, without doubt, improved management and protection have been responsible for this situation in part.

2. State and Area Activities - Cooperation in the form of referring

requests for marking and estimating service to State Division of Forestry personnel continued. However, in some counties where no county worker with the State Division of Forestry was employed or in some areas where State Division personnel could not answer requests within a reasonable time, forestry extension specialists rendered some assistance themselves where time permitted. Generally speaking, it was done on a demonstration basis, with the landowner agreeing to publicize the results.

Two woodland analysis schools for Farm and Home Development agents were held in Nash and Wayne Counties. These two programs were highly successful, and the agent response was good. They felt that they really learned some of the principles behind woodland management analysis. They further found out what they could do for themselves in helping farm families work out a program. These schools will be described in more detail in the section entitled "Farm and Home Development."

In addition, the Extension Forestry Department in cooperation with the North Carolina State College, School of Forestry, conducted a three-day forestry training school for vocational agriculture teachers. This school was also well received.

In the fall of the year, Extension Forester Gray cooperated with personnel of the State Division of Forestry and the personnel of the state Agricultural Stabilization and Conservation office in modifying the A. C. P. planting and stand improvement practice specifications to include allowance for the use of mechanical equipment

to eradicate brush and scarify soil. This modification brings the total cost-sharing assistance to $20.50 where a landowner uses or hires heavy equipment to prepare land for planting, plants the land to pine seedlings, and poisons or girdles the larger hardwoods not destroyed by the heavy equipment. This assistance is also available to those landowners who are eradicating hardwood brush and scarifying the forest floor with heavy equipment and poisoning or girdling larger hardwoods where natural seeding is to restock the area to pine.

A letter fully describing these changes was sent out to those county agents in the Coastal Plain and Sandhill areas of the state. This practice is confined to counties in these areas at the present time. In addition to a description of the practice, a list of farm power contractors who own such equipment and who are available on a contractual basis was included in the letter.

3. County-Level Activities - Two phases of forest management have received emphasis this year. The first was a program aimed at "putting brush land back to work." Several generations of poor-cutting practices spawned this problem. On such lands "strong-arm tactics" now must be employed to establish an adequate stand of pines.

On-the-ground results attributable to the Extension program have exceeded those expected. The biggest surprise has been the interest shown by landowners in this fairly technical phase of forest management and their willingness to invest money in semi-worthless lands to restore them to production. While disking, to a

forester, seemed to be the only practicable way to get the job done, all seemed to agree that it would be a struggle to "sell" this program to folks who, in many cases, had allowed this degeneration of their pine stands to take place. However, this has not been the case. The response by landowners to this particular forest practice has been gratifying.

Field days, disking and poisoning demonstrations, along with both indoor and outdoor group instruction, are some of the methods employed in promoting the adoption of the hardwood-conversion practices. The cooperation of industrial foresters has been extremely helpful in this program.

Many of the management accomplishments attained in the field have resulted from individual visits to farmers with the county agent.

Typical of the demonstration on hardwood conversion was one conducted by Extension Forester Gray and H. J. Andersen, Northeastern District forestry extension specialist, on the farm of J. B. Lane in Wayne County. The group in attendance, including county agricultural workers, sawmillers and landowners, learned how to disk poor-quality hardwoods and brush and poison with Ammate. They were also shown the fundamentals of seed-tree selection.

A TD-14 International Crawler tractor pulled a 4800-pound Rome single-section bush and bog-type disk over a measured acre in 50 minutes. The equipment was made available for the demonstration by the Dillon-Bell Equipment Company of Goldsboro, and a did a thorough job of knocking down small hardwoods and brush and exposing a mineral seedbed for pine seeds. The cost for disking per acre ranges

between $10 and $18. On the measured acre it would have cost $12.50. Under the A. C. P. program, farmers in Wayne County are eligible for a government cost-sharing payment of $7.50 per acre for disking.

Following the disking which provided a mineral seedbed and eliminated much of the overhead shade, the hardwoods left standing (6 inches d. b. h. and over) were poisoned with Ammate. This operation effectively removed the remaining source of overhead shade, which hinders the growth of young pines. On the demonstration acre the cost of Ammate used was $3.80, and 2½ man-hours of labor were required. Farmers can qualify for a $5.00 per acre A. C. P. payment for this practice.

The operations demonstrated on the Lane farm appear to be the solution to the problem posed by idle or semi-idle brush lands dotting the landscape of eastern North Carolina.

Another example took place in February of this year on the R. H. and J. P. McNair farm, where a method demonstration in disking forest land to promote natural restocking of pine was given. The area makes a wonderful result demonstration area due to the fact that it is located along both sides of Highway 258 about 5 miles south of Tarboro in Edgecombe County.

For this demonstration an acre was staked off in a 51-year-old tract of pine which had been selectively cut 8 years ago. Although no extensive count was made at that time, very few new pines were established under the old.

Mr. Barnhill of Barnhill and Long, contractors in Tarboro, ran a 6000-pound bush and bog disk over this measured acre.

Extension Forester Gray and Andersen visited the area in July (about 5 months after the demonstration) and found that there had been a definite response. A sample count on the disked area turned up 6,480 new pine seedlings per acre, distributed over 65% of the area. This is more than adequate, considering that the first growing season was half gone at the time of this inspection. (The greatest seedling loss takes place during the first growing season.)

Bob Rierson, also of Edgecombe County, owns a hundred acres of woodland which has a light stand of overmature timber scattered over it. Hardwoods and brush pose a problem for Mr. Rierson by preventing satisfactory pine regeneration. He disked 25 acres in September and began poisoning remaining hardwoods shortly thereafter. He plans to sell all the old pines on this area except a few seed trees which are being held as "fire-insurance" parents. In four years' time Rierson plans to complete the disking and poisoning on the entire 100-acre area. He has been convinced that the growth of a vigorous, well-stocked young pine stand will return far more income than the scattered older trees.

In 1955, members of the Extension Forestry Department, in cooperation with county agents, embarked on a new program phase. This involves helping the agents select at least one woodland owner, perferably a bona fide farmer, in each county who has demonstrated his interest and ability to carry out a continuing timber-growing program through past cooperation and activity. The purpose of the program is

to set up in each county at least one property which will serve as a continuing example of blue-ribbon forest management adapted to the individual's own circumstances and individual forest conditions. Extension forestry specialists will spend whatever time is needed to help such owners develop the best possible all-round program.

In most counties there is already one or more such owners, but they have not been widely publicized in many cases and, also, have failed to receive continuous follow-up visiting and assistance.

Ross Douglass, forestry extension specialist, Southeastern District, cites Dr. O. L. Parker of Clinton as being a good long-time cooperator. Dr. Parker has about 300 acres in the harvest area. His woodland has been used by veterans' groups and agents in the Southeastern District on various occasions. A selective harvest yielded 286,000 board feet of timber, which was sold for $25 per thousand. About 75,000 board feet of this was made up of trees which were damaged during "Hurricane Hazel."

During the cutting operations a number of visits were made to the area to check on the cutters to see that they cut only the marked trees. The cutting has been completed, and an excellent job was done. In addition to this recent cut, 538,000 board feet was marked and cut about 7 years ago, bringing an income of $13,500. In spite of these two large harvests, there will be another nice cut ready in 10 years.

Walter Keller, forestry extension specialist for the Northwestern District, points out the case of long-time cooperators Corey Watkins and his father of Blanche, in Caswell County. Corey and his father

operate a dairy farm and have been cooperating closely for the past four years. Their first project was to scale (with Mr. Keller's help) about 15 acres of mature mixed pine-hardwoods and negotiate a sale. The following winter, on the basis of the recommendations, they planted this area to white pine on an experimental basis. In succeeding years they measured and sold a mature block of shortleaf pine and put the land into much-needed pasture. They also, with guidance, marked a 20-year-old C. C. C. planting of shortleaf for a pulpwood thinning and had their tenants cut and load the pulpwood. The C. C. C. had also planted a 3-acre area of loblolly pine on their farm in 1936. While these trees had made rapid volume growth, they had been badly broken up by a severe ice storm. It was impossible to find even 20 straight stems per acre! As a result, Keller was forced to recommend clear-cutting. This has been done, and the area has already been planted to shortleaf pine.

Probably the best example of a long-time cooperator is W. I. Procter of Wake County, who has been carrying out forestry practices on 400 acres of forest property since 1947. During this time he has made four sales of sawtimber in which the trees were selected, marked and carefully measured by a service forester with the Extension Service or State Division of Forestry or, in later years, students of the School of Forestry whom Mr. Procter has hired to work under the supervision of an experienced public forester. He has also made a sale of pulpwood on a thinning basis since 1947.

This past summer Mr. Procter requested that the Extension Service help him prepare a long-time program for this property. Extension

Specialist H. J. Andersen, with Mr. Procter, spent three days carefully examining 187 acres of the 400 acres of woodland. Following this, Mr. Andersen sat down with Mr. Procter and worked out an intensive management plan for the 187 acres.

This year Mr. Procter disked down invading brush on 150 acres of mature timber. The timber on the disked area was marked for a shelterwood cutting with the reserve stand scheduled for removal in two to four years. Procter's forest illustrates the "area approach" to planned forest management as opposed to the "stand approach" so commonly applied on visits to individual landowners. The entire area, though subdivided according to stand condition, age and practices needed, will be managed as a unit.

As in past years, timber thinning and management demonstrations were conducted in practically every district of the state. The following typifies this phase of the program:

Mr. Guy Robinson of the Union Community of Lincoln County found out just how well off he was.

The occasion was a timber thinning and management demonstration attended by 39 of Mr. Robinson's neighbors, held on his farm, which is located on the June Bug Road.

When the crowd arrived, the first thing that caught their eye was two cords of pulpwood neatly stacked in a patch of Mr. Robinson's younger timber. They learned that this had been cut beforehand from a measured tenth-acre which had been laid off for the demonstration. When they looked the area over, they could see that the harvest of two cords, equivalent to 20 cords to the acre, had hardly made a

dent in the stand of shortleaf and Virginia pine.

Following introductory remarks by Assistant County Agent Morris Yoder, John Gray used Mr. Robinson's patch of pines to show how much more a farmer can expect in dollars and cents from following a system of partial cuttings at frequent intervals as compared to clear-cutting all his trees as soon as they reach small sawlog size and starting over again.

This particular stand was 34 years old. By actual measurement it contained 15,800 board feet of sawtimber to the acre in trees measuring 8" in diameter at breast height and larger. In addition, trees standing on the area smaller than 8" in size contained 25 cords of pulpwood per acre. Altogether, in about 34 years this forest had grown about $375.00 worth of sawtimber and pulpwood per acre figured on a stumpage basis. This is exceptionally good growth.

If Mr. Robinson were to sell all his trees today, he saw that he would receive about $375 per acre for them. If he then replanted the area, by 1978 his plantation would have grown to a value of about $125 per acre based on 1955 pulpwood and sawtimber prices. Therefore, from a clear-cutting and replanting program, Mr. Robinson would have received gross stumpage income of approximately $500 per acre.

On the other hand, Mr. Robinson learned that if he decided to grow out the best trees now on the area to good sawlog size, he could plan on making four sales with income per acre from each sale as follows:

1955	pulpwood thinning	$ 50.00
1960	sawtimber and pulpwood thinning	91.00
1968	sawtimber thinning	84.00
1978	sawtimber clear-cut, leaving seed trees or replanting for new crop	425.00
	Total	$650.00

Over the next 23 years Mr. Robinson learned that he could expect $150 more income per acre from growing out his present stand as compared to clear-cutting now and starting over.

Extension Forester Gray talked with Mr. Robinson afterwards, and he decided to follow a partial-cutting program. Regardless of what he does, however, his trees have really grown into money.

Assistant Extension Forester Smith followed this per acre analysis with a detailed comparison of two individual trees in the area. He showed the group a tree which was 31 years old and was worth $2.62. If left to grow until 1965, it would increase in value by $2.33.

Near it he showed them a second tree which was 34 years old and was worth only $0.24. If left to grow until 1965, it would earn an additional $0.51.

From the comparison the farmers present learned to pick trees to be cut on the basis of their performance instead of just cutting or selling the largest ones.

Lewis Herron, conservation forester for the Champion Paper and Fibre Company, was next on the program. Mr. Herron showed how to select and mark trees for cutting and offered to help any farmer present to do the job in his woods.

Ed Jones, district forestry extension specialist, then led the group through the procedure for measuring sawtimber volume in standing trees. Each man present then had a chance to practice-scale five

trees in the area.

Following this, two chainsaw dealers were given the opportunity to demonstrate their saws.

The folks on the June Bug Road went home from this meeting with a keener understanding of how to grow, manage and sell trees.

D. Measurement and Marketing

1. State-Level Activities - 1955 was the best timber price year in the state's history. Due to the cost-price squeeze that farmers continued to experience in other lines, the temptation was strong for them to cash in all growing stock of commercial size.

For this reason, measurement practices and market outlet information was featured at all field day programs held during the year.

1955 saw the initial steps taken towards setting up an intensified forest products marketing extension program. The North Carolina Agricultural Extension Service was approved for a cooperative Agriculture Marketing Act project in forestry. Under the terms of this agreement the U. S. Department of Agriculture will supply half of the cost of hiring a forestry marketing specialist to work on a state level out of the Extension Forestry Department.

State source matching funds were not available. Therefore, the extension forester prepared a proposal to use in approaching possible private sponsors, with the idea of securing cooperation from a private sponsor for a three and a half-year period.

No commitment had been made by the sponsor approached at the time the 1955 program year ended. In January, 1956, however, the

McCulloch Motors Corporation, Los Angeles, California, cooperating with the Carolina Chain Saw & Equipment Company, bi-state distributors of McCulloch products, agreed to provide the matching funds needed to June 30, 1959. At this time, if state funds are not made available, it will be up to the option of the cooperating parties as to whether to continue sponsorship or not.

An advisory committee for this project was set up, consisting of the following members: the Assistant Director of Extension, In Charge of Specialists; the specialist in charge of Farm Management and Marketing Extension; and the professor of Forest Economics in the School of Forestry, North Carolina State College.

The inauguration of this program will take place in 1956, and will be described in the 1956 annual report.

2. County-Level Activities - Early in the year Forsyth County agent, S. R. Mitchiner, and Northwestern District forestry extension specialist, W. M. Keller, began exploring a possible solution to the problem of marketing small quantities of sawlogs in the Winston-Salem, N. C., area. In this area farm woodland tracts are small, and farmers often have only a few mature trees to sell at one time. In addition, there is considerable open development going on; and small quantities of logs, even high-grade logs, cut from trees removed in clearing house lots were going to waste.

After a conference with Extension Forester Cray and Dr. J. S. Bethel of the North Carolina State College, School of Forestry, Mr. Mitchiner and Mr. Keller invited in the head of the county Farm Bureau and three permanent medium-sized sawmill operators whose

mills were located in three different sections of the county. The group worked out a cash log-buying setup, as follows:

a. Each of the three millmen will buy any and all amounts of logs delivered to their mills and measure them on International log rule.

b. Log prices which will hold through the following week are called in by these millmen to the major newspaper each Friday.

c. The three millmen agreed to pick up logs provided a farmer would get as much as a truckload cut and hauled out to a county-maintained road.

The program was started in the fall of 1955; and until the tobacco-marketing season was over, not much business resulted. Since then, however, a good many farmers have been taking advantage of the setup. This program is being watched closely; and if time proves it successful, efforts will be made to establish a similar market in other areas where the same problem exists.

Mr. Keller also reported another experience in rendering marketing assistance that brought unforeseen results.

Victor Blalock, Person County farmer, put a small patch of overmature pine timber up for sale. He received a "top" offer of $1,900.00 for it. Not satisfied with this offer, he called on his county agent for help. The agent, in turn, called on the forestry specialist, who visited the tract with both the owner and the potential buyer. After an inspection and sampling of volume, the specialist suggested that there was close to 150,000 board feet of high-quality pine on the area and that it should be worth about $4,300 on

the stump at current prices being paid by the operator. The operator accepted these figures, though they were over double his original offer. The tract was cut, and both the operator and the landowner were happy with the results. The operator was so well satisfied that he came back to the county agent and asked that the forester spend some time with him to teach him timber-sampling procedure on his next visit to the county.

During the 1955 program year county agents in 94 out of the 100 counties reported assisting around 6,500 farmers or farm families with marketing information and recommendations. This is a 100% increase over the corresponding activity in 1951, and is evidence that farmer interest in better timber and forest products marketing is increasing steadily.

E. Harvesting, Preservation and Utilization

During 1955, county extension workers in 94 counties assisted 6043 landowners with timber harvesting problems. The following case could be considered as typical:

Mr. Fred Bahnson of Forsyth County had a serious outbreak of bark beetles in a stand of 85-year-old shortleaf pine. About 100,000 board feet of pine was in the stand, with approximately one-fourth of it already dead from the beetle attack. Due to the advanced age of this stand and the severity of attack, it was recommended that Mr. Bahnson clear-cut the area and take it into his pasture. He had plenty of labor on his farm to fell and buck the logs and equipment to skid the logs to a loading point. Since some of the trees were already dead and their sale value questionable, it was suggested that he have a portable mill

come in and cut these dead trees into lumber for his own use. He was planning on building a new house, anyway; so the idea met with his approval. His men cut the remaining live trees and bunched the logs at the roadside. These logs were sold through the local log-buying market described previously in section III. D. of this report. This operation was carried out to the satisfaction of the landowner, and the beetle attack was checked before it could spread to his areas of young pine.

In the wood preservation field, three demonstration fence post service life panels were set up in Perquimans, Surry and McDowell Counties. The design of these panels has been described in past reports, and this description will not be repeated here. This brings to a total of 10 the number of these demonstrations to be established over the past three years. These length-of-life and fence construction result demonstrations have been erected in cooperation with the Extension agricultural engineer, Mr. H. M. Ellis.

As the individual posts fail, the date is recorded on a record form prepared in 1954; and another post of the same kind is set beside it. The idea is to show that a well-treated post or one of high native durability will outlast several untreated, non-durable posts.

Although a few single-practice demonstrations were held in 1955, most of the work time allotted to preservation was devoted to the establishment of these result demonstrations.

The list of commercial treating plants handling materials used by farmers was revised, brought up to date and made available for distribution through the county agents.

In 1955, two new pressure-type wood preservative plants went into

operation in North Carolina. One of these plants is located in Winston-Salem, and the other is located in Fayetteville. Both of these new plants are using Wolman salts as the preservative. To date, there are thirteen open-tank non-pressure-type plants employing oil-type preservatives and seven open-tank plants using Osmose salts as the preservative.

We do not know what results we are getting from our promotion of the use of properly treated fence posts and timbers in eastern North Carolina, but we feel that the fact these new plants are going into operation is a pretty good indication that the demand for treated wood products is increasing.

County extension workers in 82 North Carolina counties assisted 3898 farmers with preservative problems.

Mr. James Phillips, forestry extension specialist for the Northeastern District until March 1, 1955, reported that all treating plants that were operating in 1954 in his district were still in operation in 1955 and seemed to be doing well. According to Phillips, the use of treated fence posts is fast becoming a standard practice with most of the progressive farmers. He cites the following incident as an example of how advice to one landowner will spread to others.

One landowner approached Nash County agent, J. P. Woodard, in regard to recommendations on fence posts and fencing. Before this landowner quit talking among his neighbors, he had gotten up an order for over 1200 penta-treated posts from the treating planted located on the state-operated forest at Elizabethtown. He also passed along his information on proper fence construction to his neighbors.

In September, 1954, Extension Forester Gray and Howard Ellis,

Extension agricultural engineer, helped Robeson County agent, O. P. Owens, hold a demonstration on treating fence posts. Good fence construction was also stressed. The meeting was held on the farm of Mr. A. F. Stone of the Back Swamp Community of Robeson County. Mr. Stone and his three brothers operate a combination dairy and tobacco farm located on the Rowland-Lumberton highway. Good fence posts are a must with the Stones in keeping their cows confined to pastures, out of crop fields and off the highway. In spite of rainy weather, a good crowd turned out and much interest was shown.

The Stones had already bought some pentachlorophenol and were making plans to treat some pine posts. Getting the bark off the posts was a problem. It took time to do this job by hand and, like most folks, the Stones were in a hurry.

Gray demonstrated the chain-type post peeling machine. They timed him and found that line-sized 7-foot-long posts could be peeled by one man at the rate of one every two mimutes, as compared to 8 or 10 minutes by hand. Right away they wanted one; and when Extension Forester Gray offered to help them build one for use by farmers in the community, they made plans to take advantage of his offer.

During the week of December 6, 1954, Gray spent a day and a half with A. F. Stone at the Rowland Vocational Agriculture workshop. Vocational Teacher Morrison and his assistant, Jack Erlwanger, helped Mr. Stone build a chain peeler for his own use. They built a rugged machine at a total cost for materials of $28.00.

Mr. Stone has the machine in operation, and it is doing a good job. Three other machines like it have been built and loaned out in the community by the vocational agriculture teacher, Mr. Morrison. As a result,

livestock farmers in the Back Swamp Community are putting long-life home-grown pine posts into their fence lines.

As a result of publicity given to a charcoal production project conducted by the North Carolina Division of Forestry on the state forest near Elizabethtown, a lot of inquiries were received early in the year for information on charcoal production as a potential enterprise and details on how to go about getting into the business.

Professor Lenthall Wyman, of the School of Forestry, had been studying charcoal consumption and production problems in connection with a project in operation on the New Hope Valley Forest operated by the North Carolina State College, School of Forestry. He had also served as an adviser to the North Carolina Division of Forestry in the Elizabethtown project.

Professor Wyman drew up a comprehensive statement on opportunities and production methods. After editing by Extension Forester Gray, the material was published in mimeograph form with a lithograph cover showing beehive-type kilns in operation. Unless briquette-processing plants are located in North Carolina, in-state demand will not support more than about 50 small-scale producers. Accordingly, no great promotional effort has been made in this utilization phase.

F. Protection

This past year (1954-55) saw one of the worst fire years in history from the standpoint of acreage burned. A two-year drought build-up in the eastern half of the state and extremely erratic weather conditions contributed to the worst spring fire season in many years. A total of 3117 fires burned over some 577,000 acres of state and private lands. Three of them - the Lake Phelps fire, the Green Swamp fire, and the

Croatan National Forest fire - totaled 313,000 acres.

The fall fire season was one of the mildest in years, with only 356 fires occurring, burning 3,589 acres. Thus, for the entire year a total of 3,473 fires started, burning approximately 580,000 acres.

As in past years, although no special program has been carried out in fire prevention by members of the forestry extension staff, the subject was stressed at all demonstrations and meetings held with adults, particularly in counties where fire danger is great. County extension workers in 90 out of the state's 100 counties report that a total of 18,747 farmers were assisted in forest fire prevention activities. In addition, county 4-H delegates and the 12 assistant county agents attending the 4-H forestry camp received intensive training in all phases of fire prevention and suppression.

In the five mountain counties where the southern pine beetle outbreak occurred in 1953, and continued to increase to epidemic proportion in 1954-55, landowners were notified as to the nature of the epidemic and control measures that should be taken to control the insect infestations. The recommendations for control involved felling and spraying infested pines with ¼ of 1% gamma benzene hexachloride in fuel oil. This control measure was carried out, in the main, on public forest lands, while other landowners carried out salvage operations of recently killed trees, as well as infested trees. These trees were sold for pulpwood or cut into lumber.

The epidemic has been reduced to less serious proportion as a result of severe winter weather in 1954-55, above-normal rainfall, and salvage operations and chemical control operations that were carried out. Fred

E. Whitfield, forestry extension specialist for the Western District, reports that insects are still present in 1955-56 and are over-wintering in brood trees. A close watch is being kept on the area.

The situation was serious enough to justify holding a special training school for county agents of the Western Extension District, plus district foresters, farm foresters and county foresters of the North Carolina Division of Forestry working in western North Carolina. This one-day session was held on April 15, 1955.

Principal instructors were Ed Merkel and James Renshaw of the Southeastern Forest Experiment Station, R. L. Scheer of the North Carolina Division of Forestry, and Fred Whitfield, district forestry extension specialist, who served as master of ceremonies for the occasion. All instruction took place on the Bent Creek Experimental Forest, a branch station of the Southeastern Forest Experiment Station.

The agents visited beetle-infested areas on this forest. At the first area, they examined broods in trees, some of which were already dead and some of which were suffering from patch attacks but were still alive. They were shown how to distinguish between southern pine beetle and turpentine beetle. Each took a close look at the winding S-shaped tunnels in the bark made by the southern pine beetle and got a look at the larvae or "worms" in the bark.

At the second infested area they saw a demonstration in felling and spraying the trunk and top of an infested trees. The entomologists have found that a $\frac{1}{4}$ of 1% solution of gamma isomer of benzene hexachloride in fuel oil is effective for such spraying. This requires only half as much BHC as was formerly recommended.

Instructors emphasized that early detection, plus prompt salvage or spraying of infested trees, was the best answer. Trees where the foliage has turned a straw color should receive first attention since, many cases, when the needles have turned red or bronw, the beetles have moved on to other trees.

Instructors emphasized, too, that after a forest area had been treated, owners should revisit the original infestation to make sure all infested trees were treated.

A second important insect epidemic occurred in south-central North Carolina. This was an outbreak of Ips engraver beetles, first noticed in Union County, North Carolina, in the fall of 1954. Although the Ips attack was centered in Union County, it was also highly active in Anson, Mecklenburg, Montgomery, Richmond and Stanly Counties. Special control efforts were worked out by the Extension Service, North Carolina Division of Forestry, the International Paper Company, and Cape Fear Wood Corporation, involving a salvage of dead trees and infested trees for pulpwood. In addition, this group set up a four-member forestry staff to visit individual infestations at the request of forest owners, select and mark infested trees, and make on-the-ground control recommendations. Each of the four cooperating organizations furnished a forester one day each week to assist forest owners. Training schools were held in both Union and Anson Counties for all agricultural workers. Local newspapers carried a special feature section on the Ips beetle.

An aerial reconnaissance plus field reports in August revealed that the outbreak had subsided considerably and no new attacks were apparent. It is believe that the return to a normal rainfall was largely reponsible

for the decrease of the insect population.

An aerial survey conducted by the North Carolina Division of Forestry turned up ten new oak wilt infestations in western North Carolina in 1955. Infested trees were felled, sprayed and the stumps poisoned. In Avery County new white pine blister rust infections were found and steps taken to control the disease.

Fred Whitfield, forestry extension specialist for the Western District, states that even though fire, insects and diseases are taking a tremendous toll in dollars and cents each year in the mountain counties, forest grazing is by far the biggest protection problem. The Extension program in that section of the state has been active in trying to improve the forest-grazing conditions through result demonstrations along well-traveled roads, through newspaper articles, and through radio and television programs. No new information regarding the trend in this highly undesirable practice is available at this time.

G. County Program Planning, Program Projection, Agent Training, Farm and Home Development

1. Program Planning - In all but a few counties forestry extension specialists have helped agents plan every major activity in the county's extension forestry program.

Each district specialist spent some of his time during the summer months visiting each of his counties for the purpose of lending assistance in preparing each county's forestry plan of work for the coming extension year. In most cases he sat down with the agent and went over a prepared list of suggestions. Upon leaving he left definite written suggestions with the agent for him and his local leaders

to modify as they saw fit.

In addition, members of this department helped agents plan in detail the major activities, such as, field days or forestry tours. In many cases, some of the district men spent as much as two or three days with the agent helping with planning and preparations for large-scale field days and tours.

During 1955, the requests on county work plans and other necessary work had increased to the point where the work planned ahead required just about all the time available. In other words, careful planning for 1955, paid off in tight schedules for each member of this department.

2. Program Projection - Another phase of overall planning assistance to agents was the preparation of individual county material for Program Projection statements. This phase of extension started in November, 1955, when twelve counties, two in each of the extension districts, were selected and asked to secure the cooperation of farm and other leaders in working up statements covering action to be taken to increase net farm income and extension needs for the county to enable extension to carry out its responsibilities in such a program.

Specialists of this department prepared brief statements on forestry containing essential information showing the situation in the county and possibilities for increasing net income through improved timber-growing programs. This was sent to each agent concerned to serve as a basis for discussion meetings with selected leaders.

The following counties were included in the program projection program:

Northwestern District - Orange, Randolph
Western District - Watauga, Henderson
Southwestern District - Union, Caldwell
Southeastern District - Columbus, Richmond
Northeastern District - Edgecombe, Wake
Eastern District - Pamlico, Washington

3. Agent Training - Agent training during 1955, has proceeded primarily on an individual basis. For instance, assistance on 4-H meetings has been almost completely limited to assisting the agents in planning the program to be presented, furnishing special equipment or material needed and presenting the program at one or two 4-H meetings. This afforded the agent an opportunity to observe the methods and materials involved in presenting the program. After this brief but thorough individual training, the agents then took the material and presented the program to the remaining clubs in their respective counties. This trend in agent training resulted in fewer meetings being conducted by the specialists during 1955.

At four winter district meetings of white agents and assistant agents, the use of a newly developed set of flip charts on tree planting was demonstrated by the district specialists. The response to these flip charts was gratifying, to say the least. For example, in the Southeastern District 80% of the agents have requested the use of these charts. Agent reaction has indicated that this was the best program package they have ever received.

The booking process is handled by the Visual Aids Department, where 17 copies are now available. The charts are packaged in a rugged mailing tube, along with a brief script and reference material. They are booked and handled on the same basis as movies and slides are

handled. In addition, each specialist in the department has a copy for his own use and for loan to agents on a short-notice basis.

At the first 4-H forestry camp held during the week of June 20-25 and described in detail under 4-H Forestry, two assistant county agents, county 4-H leaders from each district, (a total of 11 attended) attended as counselors. The 11 agents attended the classes and received the benefit of four days of in-the-woods training and practice, along with the 4-H delegates.

During the 1955 program year the Extension Forestry Department, in cooperation with the North Carolina State College, School of Forestry, conducted a three-day forestry training school for vocational agriculture teachers. This school was well received and will be repeated during 1956 for a different group of teachers. This school, as did those held for agents in previous years, featured show-how and practice type of instruction.

In addition to these activities, agents were kept up to date through new publications, folders, and mimeographs. Circular letters and television shows, plus a "Farm Forestry Facts" sheet, have been used to keep agents up to date on program and subject matter developments.

4. Farm and Home Development - This new major addition to the overall program has resulted in the hiring of additional white extension county personnel in 36 counties. Negro workers have been added in 8 counties.

Two forestry training schools in woodland analysis were held in Nash and Wayne Counties. The one in Nash County was for one-half day, while the one in Wayne was for a full day. Although the schools

were primarily for the benefit of Farm and Home Development agents, they were not confined to them. Other agricultural workers attended both schools.

Wayne County was one of the first counties to participate in the Farm and Home Development phase of the Extension program. The Farm and Home Development agents appointed - T. S. Godwin and B. H. Harrell - had requested training in woodland analysis. They had been urging the families with whom they were working to consider the timber supply and the timber-growing possibilities in working out a farming program designed to help them reach family goals for adequate income and better living.

In addition to the Farm and Home Development agents, other members of the county extension staff wanted some practical training in helping the farm people to recognize their timber-growing opportunities. A total of six agents were on hand when Extension Forester Gray and district Forestry Extension Specialist H. J. Andersen opened the school at ten o'clock on Wednesday, October 26, in the woods of Mr. J. B. Lane of Fremont.

The program was as follows:

a. Forestry Outlook - Extension Forester Gray described the immediate and long-range outlook for timber demand and prices and trends in consumption.

b. Log Rules and Log Scaling - After a brief discussion of the features of different log rules, each agent took part in an exercise involving measuring nine sawlogs and figuring up the volume by three different rules used in North Carolina. Price differentials were emphasized.

c. Tree Scaling - District Forester Andersen led the agents through an exercise in measuring the volume of one standing tree. The tree was then cut and the logs in it scaled up and compared with the tree measurement.

d. Mr. Andersen and Mr. Gray then led the group through an exercise involving measuring all trees on a staked-out quarter-acre sample plot. Each agent figured the volume of sawlog trees by International rule and the volume of pulpwood trees in standard cords. Current prices were applied to the volume totals to determine stumpage value per acre.

e. Growth Rate Determination - After demonstrating how to use an increment borer and a timber scale stick to determine how much wood a tree was adding each year, district Forestry Extension Specialist Andersen led the group through an exercise to determine growth on each individual tree on a staked-out quarter-acre circular plot. The volume and value of each tree was projected ten years ahead, and the return on money invested in it calculated in both dollars and per cent. On this basis the agents then were able to decide which trees should be recommended for cutting and which left to grow.

f. Summary - Extension Forester Gray then led a discussion of how to apply these techniques in practical woodland analysis. A brief discussion of sales methods and consideration of a sample timber sale agreement form concluded the school.

In checking with these agents later on, we found that they were very well pleased with the way in which the material was presented

and felt that they had a good basic understanding of the practical side of woodland analysis.

District specialists have made it a point to visit and get acquainted with each new Farm and Home Development agent shortly after he goes to work. During these first visits, the specialists have been explaining the assistance that they can offer to these new workers. The requests that have come from these agents involving visits to client families and farms have been given priority in scheduling work. On an individual basis, the specialists have been attempting to train these agents to size up the forest situation and make practical recommendations.

H.. 4-H Forestry

1. Awards Program - 1955 was a banner year for 4-H forestry in North Carolina. This year saw the inauguration of, what we believe, is the most comprehensive system of incentives for 4-H Club members to take part in forestry training and activities that exists in any state. This program was sponsored by Southern Bell Telephone and Telegraph Company and conducted by the Agricultural Extension Service.

The inauguration of this program was widely publicized in January, 1955. Actually, the program was "kicked-off" on January 10; and a short sound motion picture film showing the presentation of the check by Mr. Ed Clement, Raleigh manager for Southern Bell, to L. R. Harrill, State 4-H Club Leader, and John Gray, Extension Forester, was made. This check represented the financing necessary for the first year's operation of the program. This film was sent to all television stations in the state and was shown on their "North Carolina

News" feature. Simultaneously, news releases announcing and describing the program went to all daily and weekly papers throughout the state. The State College radio network featured an on-the-spot broadcast of the "kick-off" ceremonies. In addition, the daily radio script service prepared by the Department of Information featured this new program in the script sent out to all North Carolina radio stations for use on January 10, 1955. Extension Forester Gray and 4-H Club Leader Harrill sent out a letter describing the new program, along with an attractive and colorful folder giving all the details about each phase to all county agents and assistant county agents in North Carolina. These letters were timed so that they would reach the county agents and assistant county agents on the same day that the news broke by radio, TV, and newspapers. Enough copies were sent to each county so that one could be given to each 4-H boy enrolled.

The major features of this program are:

a. Funds to conduct an annual week-long forestry training camp for 4-H Club boys. The county 4-H forestry champion in each county of the state is invited to represent his county at this camp with all his expenses, including travel, paid. In addition, two assistant county agent 4-H leaders from each of the six extension districts are invited to attend as counselors. Their expenses are also paid. Extension forestry specialists, plus selected instructors from industry, make up the camp staff.

b. Sponsorship of silver medals to the best 4-H forestry record winner in each county each year.

c. Sponsorship of a trip to National 4-H Club Congress each year to the boy with the best 4-H forestry record in the state.

d. Awards for excellence in the preparation and presentation of forestry demonstrations before groups. (Rules and outlines for these demonstrations were described in the 1954 Annual Report.) Winners in each of the six Extension district elimination contests have their expenses paid to state 4-H Club Week and the right to compete for the state prize, which is a $50 engraved wrist watch or an engraved trophy clock. (Where a team wins, duplicate prizes are awarded.)

e. Funds to pay for the preparation of 60,000 copies of an attractive three-color folder describing the awards and camp program.

2. 4-H Forestry Camp - North Carolina's first 4-H forestry camp was held at 4-H Camp Millstone during the week of June 20 through 25. This was a memorable event for the 91 boys and 11 counselors who were selected to attend. Here they spent one week in the woods enjoying the outdoor life and receiving instruction from extension foresters and timber industry representatives. The instructional program was designed to develop "know-how" through "show-how." Classes featured active participation by the delegates rather than a passive type of teaching. During the classes the delegates had certain jobs laid out for them to complete under the guidance of their instructors. They learned about such things as planting a forest, measuring timber, improving timber stands, harvesting the timber crop, how to work safely in the woods, and care of woods equipment. In addition, H. M. Ellis, extension agricultural engineer, taught the campers principles of good

fence construction in conjunction with the wood preservation class. Each day was filled with instruction and recreation, and the evening programs were designed to entertain as well as inform.

The campers' and counselors' travel schedule was so arranged that they arrived at camp on Monday, June 20, and departed on Saturday morning, June 25. The official opening of camp took place after supper on Monday evening with a camp orientation program. Camp activities ceased Friday night with a farewell party and the awarding of gifts and prizes. The campers and counselors left for home after breakfast on Saturday. This eliminated any Sunday travel.

The purpose of this camp was to develop 4-H forestry leadership through effective training. This purpose was accomplished. Response to a questionnaire handed out at the close of camp indicated that 93% of the delegates felt competent to inspire and train other club members in forestry. Members of the Extension staff who have visited certain delegates since the close of camp report that every one contacted has carried out or planned some forestry leadership or project activity as a result of his camp experience.

This was an all 4-H boys' camp. Selection of delegates was up to the agents entirely. Only requirements were that the delegate must be a bona fide 4-H Club member not less than 12 or over 18 years of age.

The 11 assistant county agents who attended the camp as cabin and group counselors were selected by a committee for each district consisting of the district agent, the district 4-H Club leader, and the district forestry extension specialist.

The 4-H Club Department was responsible for handling the details of camp operation, while the extension forestry staff was responsible for conducting the program.

Guest instructors were J. Howard Doyle, representing the North Carolina Furniture Committee; Harry Jefferson, safety and training officer, American Pulpwood Association; and W. E. Roberts of Sandvik Saw and Tool Corporation.

3. Demonstration Competition - In the forestry demonstration program, participation more than doubled. In 1954, only 17 counties had entries in district and state demonstration competition. This year club members from 38 counties competed for district and state prizes, and their presentations were of a higher quality than those presented in 1954.

All six Extension districts were represented in the state demonstration finals held in Raleigh on Friday of state 4-H Club Week (July 25 - 30). Some excellent presentations were given on a variety of subjects. First-place winner was Julian Howell of Perquimans County. He gave a demonstration on the preservative treatment of fence posts. Second-place winners, William Bates and Billy Hines of Mecklenburg County, also did an excellent job on the same subject. Third place went to Bobby Auman of Moore County, who showed the audience how to plant pine seedlings. "An Ounce of Prevention" was the subject chosen by Billy and Carlyle Woodlief of Wake County, who ranked fourth. This demonstration stressed forest fire damage and fire prevention practices. "Cull Your Trees for High Production" was the topic presented by Floyd McCall of Transylvania County and Jack Greene of Wilkes County, who placed fifth and sixth respectively.

The demonstrations were judged by State Forester Fred H. Claridge; Dr. R. J. Preston, Dean, North Carolina State College, School of Forestry; and former state Extension Forester R. W. Graeber.

As state winner, Julian Howell of Perquimans County had his choice of a $50 engraved wrist watch or a trophy clock. He chose the trophy clock. Julian, as did each district winner, received a $25 check to cover all expenses as a delegate at state 4-H Club Week.

Customer Relations Manager, Leland Mackay, of the Southern Bell Telephone and Telegraph Company, was on hand to congratulate the winners and had words of praise for all contestants.

4. Projects and Records - In this phase of the 4-H forestry program we anticipated a 10% increase in total number of individual forestry projects completed by North Carolina 4-H Club members in 1955. However, we were gratified to find that white 4-H Club members completed a total of 3,557 forestry projects. This represents a total increase of 580 projects over the 1954 level, or a 20% increase in only one year in response to the new awards program. Further, 99 out of the state's 100 counties reported 4-H forestry project completions for 1955. To date, 81 out of the 100 counties selected county forestry winners and presented award medals to them. Long-time record entries in district and state competition were about the same as in 1954. The effect of awards on this phase of the program is not expected to show up until 1956 or 1957, due to the fact that long-time records require several years to develop.

The state winner in the records phase of the 4-H forestry program

was Ronald Pinkerton of Buncombe County. He received an all-expense-paid trip to the National 4-H Club Congress in Chicago.

5. Planting - In 1954-55, two major pulpwood companies encouraged 4-H Club members to carry out tree planting projects by purchasing pine seedlings from the North Carolina Division of Forestry nurseries and making them available free of charge through county agents to club members. A maximum of 5,000 seedlings were offered per individual club member.

In 65 eastern counties the North Carolina Pulp Company of Plymouth made available 1,000,000 loblolly pine seedlings to 4-H Club members. Of the total number available to club members in this area, 506 4-H'ers ordered 767,950 seedlings.

Through the generosity of Champion Paper and Fibre Company, the same type of offer applied to club members in 20 Piedmont counties. Champion purchased 500,000 white and shortleaf pine to be distributed through the county agents to 4-H Clubbers.

In the area where Champion Paper and Fibre Company sponsored the free seedlings, 315 4-H Club members ordered 471,750 white and shortleaf pine.

Letters, plus the necessary application blanks, explaining the free seedling program to 4-H'ers, was sent out in September to all Extension agents except those in the Western District, where trees are available without cost from the Tennessee Valley Authority.

In the case of those counties where trees are supplied by T. V. A., 427 4-H'ers ordered 1,002,000 seedlings.

All told, 1,248 club members ordered 2,241,700 trees during the 1954-55 planting season. In the 1953-54 planting season 1,363 club

members ordered 1,535,650 seedlings. In other words, the current planting season saw 115 fewer club members order 706,050 more tree seedlings. This was a record-high year in the number of seedlings planted by 4-H Club members.

To further encourage planting projects, 4-H planting contests were held in the following counties:

County	Number Participating	Sponsor	Group to be Reached	Total Prizes
Sampson	18	W. T. McLean	4-H	$150
Bladen	42	Turnell & Morgan and Cape Fear Wood Corporation, pulpwood dealers	4-H	$150
Duplin	9	W. H. Hall, pulpwood dealer	4-H	$150
Robeson	22	Kelly Pearson, pulpwood dealer	4-H	$150
Columbus	9	Acme Wood Corporation, pulpwood dealers	4-H	$150
Anson	27	Cape Fear Wood Corporation, pulpwood dealers	4-H	$150
Graham	All who ordered trees	Robbinsville Bank	4-H	$ 50
"	All who ordered trees	Bemis Hardwood Lumber Company	All farm youth	$ 25

As an example of how a contest-type incentive program will grow and develop on a district basis, Ross Douglass, forestry extension specialist for the Southeastern District, points out that in 1953, he started out by setting up a contest in Sampson County and during 1954-55 five other counties in his district carried out tree planting contests. In all, 4-H planting contests were conducted in 6 of his counties. In each of these counties $150 in prizes was set up by dealers of North Carolina Pulp Company. Douglass assisted with the prize presentation at the annual 4-H Achievement Day in each county.

County extension personnel, with Mr. Douglass' assistance, conferred about how prizes should be set up and, with all in agreement,

including the sponsors, the following prizes were offered:

Most trees planted by a club member	$35.00
Second place	$15.00
Best job of planting by a club member	$35.00
Second place	$15.00
Best example of reclaiming idle land by a club member	$35.00
Second place	$15.00

Mr. Douglass reports that the primary purposes of these contests are:

a. To promote more planting of pine seedlings for timber production and other recognized good forestry practices.

b. To encourage 4-H Club members to do a better job of planting forest trees.

c. To stimulate the reclaiming of idle and waste areas for profitable timber production.

As a result of much planning and work on the part of Mr. Douglass and county extension personnel in the 6 counties where these contests were held, 127 Club members participated in the contest. The contests were judged by a committee of three foresters, one representing North Carolina Pulp Company, one from the Southern Pulpwood Conservation Association, and the assistant extension forester, G. W. Smith.

At the close of these contests the sponsoring organizations were very well pleased with the response and pledged cooperation for the program year 1955-56.

6. Timber Stand Improvement - In addition to planting, timber stand improvement project activity was promoted in 6 counties by county contests and in the entire Western District through a district contest.

These were as follows:

County	Sponsor	Group to be Reached	Prizes Offered
Buncombe	American Enka Corporation	4-H	$ 50
Transyl-vania	Carr Lumber Company and Silversteen Industries	All farm youth	$ 75
Cherokee	Murphy Bank	4-H	$ 50
Stokes	Sm. Marshall (Stokes Lumber Company)	4-H	$100
Wilkes	Wilkes Chamber of Commerce	4-H	$100
Wake	Raleigh Chamber of Commerce	4-H and FFA	$150
Western District	Champion Paper & Fibre Company	All farm youth	$175

As was the case with the planting contests, where 4-H Club members are concerned, the county agent with assistance from the district forestry extension specialist worked with the sponsor in securing participation and setting up contest rules; but the Extension Service took the lead in promoting the program and carrying out the judging. Where F. F. A. or other farm youth were involved (as in Wake County, for example), vocational teachers and county agents were responsible for promoting the program. The judging was done by a representative selected by the vocational teachers, an extension forester, and a third judge selected by these two.

In addition to these contests, an essay type of contest is conducted in Burke County under the leadership of the Extension Service for 4-H Club members. It is sponsored by the Morganton Kiwanis Club and offers a total amount in prizes of $175.00.

7. Agent Activities - White and Negro agents in all 100 counties report

that a total of 35,016 club members were given some forestry training in 1955. This is about a 6000 increase over 1954, and shows that agents, too, responded to the new expanded awards program.

I. Department Supervision and Administration

In the 1955 program year definite progress was made along the following lines:

1. Developing district and state-wide program goals.
2. Developing a team approach to certain activites.
3. Projecting department needs and planning for individual specialist development.

The extension forester and the assistant extension forester spent considerable time thinking through and preparing for three major department conferences during the program year, the first of which was held December 13 - 15. At this first conference the staff members were given the details on the new 4-H awards and camp program. Each was also given a questionnaire to use in making detailed suggestions for the program to be conducted at the first state 4-H forestry leadership training camp. Each was also given an opportunity to participate in a discussion on new 4-H forestry projects and visual aids needed.

Following these discussions, 4-H program accomplishment goals were set for the year as follows:

1. Each of the state's 100 counties to send one representative to the 1955 4-H forestry camp.
2. At least a 10% increase in number of forestry projects completed in each district.
3. At least four long-time forestry records entered for district and state competition.

4. At least seven counties from each district represented in district demonstration elimination contests, and one entrant from each district in the state finals.

The second day of this conference was devoted to discussing the adult program and was highlighted by the discussion of the specialist role in Farm and Home Development by Extension Director D. S. Weaver. Following this, each specialist was asked to carry out the following activities in Farm and Home Development for 1955:

1. Contact and get acquainted with each Farm and Home Development agent shortly after such agents are hired. Explain the part that forestry could play in the success of this program.
2. Visit Farm and Home Development families upon request from the agent. Where practical, make initial woodland examination and write out and leave suggestions for initial action.
3. Write news stories on results where worthwhile results were obtained.

Following this, the staff received information on the roadside demonstration show window sign program. Each man was given order blanks and a mimeographed sheet describing the purpose of the program and the standards for areas to be marked by signs. A goal of one unit per county was set for the year 1955.

The last day of this meeting was devoted to the preparation of district plans of work.

A two-day training meeting was held prior to the first 4-H forestry camp. The meeting was held at the camp site. After a joint meeting with the 4-H camp staff, in which the purpose of the program was explained and arrangements discussed, the entire planned program was reviewed with the forestry extension staff. Following this, staff members serving as instructors sat down with the extension forester and reviewed step by step the program of instruction. Each was taken to the instruction area and shown how it would be used for exercises. A list of equipment for

each class was made up, and Assistant Extension Forester Smith checked this out with each instructor. As a result of this careful planning, the camp went very smoothly and the caliber of instruction was extremely high.

A three-day conference was held in Raleigh in October. The group came in on the first day and met together for supper. Following supper, the extension forester reviewed the program that would follow and conducted a brief discussion of opportunities for department and individual progress.

On the following day, the Assistant Director of Extension in charge of specialists, Dr. C. B. Ratchford, along with the extension forester, served as discussion leader for the morning program. Dr. Ratchford first discussed the specialist's job in Farm and Home Development and the experience the specialists were having with this phase of the Extension program. A group discussion followed concerning ways in which specialists could make a strong contribution to the success of the Farm and Home Development program.

The extension forester then led a discussion concerning the department program over the next ten-year period, emphasizing need for additional personnel, specialized training, and the possibilities of developing a graduate training program for members of the department. Following this, the Assistant Director led a discussion on opportunities for personal growth and development for Extension specialists. He explained the opportunities for professional improvement, existing scholarships for Extension workers, the present Extension administration's attitude and long-range goals for specialists' salaries, and the like.

This morning program brought to light a lot of matters that the staff

had been curious about but had never heard discussed and in which they showed extreme interest.

This conference also featured a program covering the latest technical recommendations on brush and hardwood control, plus a demonstration of a mechanical tree girdler and brush saw. The leader of this discussion was Dr. T. E. Maki, in charge of forest management teaching and research at the School of Forestry, North Carolina State College.

The third and last day of this conference featured a frank and critical analysis of the 1955 4-H forestry camp program and recommendations for the 1956 program. Each man was asked to prepare written suggestions for 1956.

The meeting concluded with a review of two new flip chart visual aids - one on tree planting, which has already been described under the Agent Training section of this report, and one on forestry as a career prepared by Assistant Extension Forester Smith for use in recruiting students for the School of Forestry. Television scripts were distributed, as were a set of slides on the 1955 4-H camp, which each specialist could make available to 4-H agents in stimulating the interest of club members in attending this camp in 1956.

As a result of the intensive planning and preparation that went into these conferences and the discussion and ideas which resulted, the department has pulled closer together and morale is the highest it has ever been. Each man feels that he has a larger voice in planning the overall department program and is also thinking about the growth and progress of the department, as well as his own individual part in this. Each has been frankly told how his program success will be measured and what activities he will be expected to emphasize.

In 1955, the members of this department began to understand how unlimited the opportunities are for the department and for them as an individual to make a major contribution to the Extension program and to the progress of forestry in North Carolina.

V. Teaching Materials Prepared

The following materials were prepared in 1955:

A. Flip Charts

"Planting Forest Trees" ---------- 24 sets

B. Mimeographs

"Planting Forest Trees" script to go with flip chart -------- 200 copies
"Charcoaling, An Outlet for Poor-Quality Trees, by Lenthall S. Wyman ---------- 1,000 "

C. Folders

"A 4-H Forestry Camp and Awards Program for North Carolina" - 70,000 "

VI. Contributions to National and Regional Programs

During 1955, Extension Forester Gray continued to serve as chairman of the Southeastern extension forestry group made up of extension forestry personnel of eight Southern and Southeastern states. During the year most of the activity of this group revolved around work by a committee on visual aids and publications, chairmaned by Extension Forester W. J. Barker of South Carolina. This committee was very active in circularizing new publications prepared by each of the member states and in setting up a photograph pool which could be used by all members.

In addition, Gray served as a member of the Advisory Committee of the two research centers, the Bent Creek Experimental Forest and the Calhoun Experimental Forest operated by the Southeastern Forest Experiment Station, U. S. Forest Service. Gray attended a meeting of the Calhoun Forest Research Center

Committee in October at Union, South Carolina.

VII. Cooperation

Contest sponsors and tree seedling donors in the 4-H and adult phases of the Extension program have already been listed in section IV. B., Planting, and section IV. H., 4-H Forestry.

The following is a list of government agencies and private industries and civic groups cooperating with the Agricultural Extension Service in promoting the extension forestry program in 1955:

A. Government Agencies

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

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

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

U. S. Department of Agriculture - Agricultural Conservation Program - Extension forester served as member of state technical forestry committee and took lead in revising forestry practice write-ups to include use of heavy equipment for seedbed scarification and brush eradication. Extension Forestry Department publicizes forestry cost-sharing benefits. Temporarily, in the Northeastern Extension District, district forestry extension specialist made need and practicability inspections due to shortage of North Carolina Division of Forestry personnel.

Soil Conservation Service - Extension forester appeared on program at annual meeting of this organization.

North Carolina Division of Forestry, Department of Conservation and Development - Produce seedlings for distribution to farm owners and

4-H Club members. Extension personnel publicize, promote and place application blanks with farm people.

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

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

State Forest Supervisor, G. V. Chamblee, served as instructor at Bladen County adult and 4-H forestry days held on the Bladen Lakes State Forest.

North Carolina State College - School of Forestry - Review new extension publications upon request. Extension staff assists with short courses and enrollment problems upon request. Both groups serve in an advisory capacity to the other on request. Jointly conducted three-day "Forestry Short Course for Vocational Teachers," attended by 25, and a "Farm Woodland Management Short Course," attended by 20 private foresters.

- Farm Management Extension - Extension foresters submit forestry material for overall state outlook statement. Extension foresters serve as instructors in "Short Course in Modern Farming."

- Agricultural Engineering Extension - Extension Forestry is responsible for preservation and Extension Agricultural Engineering for fence construction phases of fencing program. Cooperated in establishing 3 result demonstrations in fence post service life.

- Extension Entomology - Entomologist collaborated in sending out information on forest insect outbreaks, in planning for control of Ips outbreak in south-central North Carolina, and in individual specimen identification and control recommendations.

- Pathology Extension - Identify specimens upon request. Maintain culturing service for oak wilt specifications.

- 4-H Department - Promote forestry project activity in cooperation with Extension Forestry staff. Extension foresters assist with selection of state and district winners and with program at 4-H annual short course, prepare subject matter material, serve as instructors at 4-H summer camps, etc. Staffed and ran 4-H Forestry Camp, with Extension Forestry responsible for the program.

B. Private Organizations and Industries

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

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

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

Rankin-Sanford Implement Company, Mocksville - Furnish one-man power saw on permanent loan for demonstration use.

Calypso Veneer Company, Calypso, N. C. - Furnished 100 waterproof plywood sign blanks for roadside sign program.

North Carolina Forest Industries Committee - Sponsor "Tree Farm" program. Extension foresters recommend landowners for consideration.

VIII.
Statistical Summary, 1954-55

Item	Specialist									Total
	Gray	Smith	Ellison	Andersen[1]	Douglass	Jones	Keller	Whitfield	Phillips[2]	
Days in office	178.0	157.0	155.9	19.3	137.1	72	77	88.5	18.5	903.3
Days in field:										
Assisting county extension workers	98.1	100.0	111.3	101.1	113.3	199.0	119.0	147.5	42.5	1,031.8
Assisting other government workers	.2	10.0	3.8	7.6	3.4	3.0	32.0	24.0	4.0	88.0
State-wide or area activities	20.7	27.0	24.0	27.0	20.7	3.0	16.0	18.0		156.4
Sub Total	119.0	137.0	139.1	135.7	137.4	205.0	167.0	189.5	46.5	1,276.2
Holidays	10.0	10.0	10.0	2.0	10.0	10.0	7.0	10.0	6.0	75.0
Annual leave	6.0	9.0	8.0		13.5	24.0	9.0	6.0	6.0	81.5
Sick leave					3.0	2.0	3.0	7.0		15.0
Sub Total	16.0	19.0	18.0	2.0	26.5	36.0	19.0	23.0	12.0	171.5
Grand Total	313.0	313.0	313.0	157.0	313.0	313.0	263.0	313.0	77.0	2,375.0
Conferences in office	981	312	17	31	68	44	374	21	20	1,868
No. of individual letters	975	368	103	240	160	25	129	122	63	2,185
Total number of separate meetings	113	109	71	22	56	43	48	123	21	606
Total attendance	5,280	4,161	1,443	717	3,169	2,035	2,708	5,210	653	25,376
4-H camps attended					1		2			3
No. of counties represented					1		4			5
1. Boys and girls					45		269			314
2. Adults					7		25			32

1/ June 1 to November 30, 1955, only.
2/ December 1, 1954 to February 28, 1955, only.

Days
2179 | 12762
10890
18670

1276
903
2179

194
157

IX.
Table 1

State Summary of Trees Placed by Extension Personnel
by Districts
1954-55 Planting Season

District	Adult Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to 4-H		T. V. A. Free Trees to Adults		T. V. A. Free Trees to 4-H		Totals		Christmas Trees	
	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees
Eastern	32	82,100	4	11,000	7	14,500					44	107,600	23	49,600
Northeastern	88	167,250	8	14,900	62	105,350					158	287,500	46	50,000
Southeastern	123	434,450	166	619,500	233	387,500					522	1,441,450	54	88,200
Northwestern	66	174,975	32	112,550	153	197,900					251	485,425	13	50,200
Southwestern	139	336,650	49	126,500	366	534,450					554	997,600	26	32,500
Western	10	59,500					356	1,148,500	427	1,002,000	793	2,210,000	1	1,000
State	458	1,254,925	259	884,450	821	1,239,700	356	1,148,500	427	1,002,000	2,322	5,529,575	163	271,500

Summary of Trees Placed by Extension Personnel
Eastern District
1954-55 Planting Season

Table 2

County	Adult Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to 4-H		Totals		Christmas Trees	
	Applications	No. of Trees	Applications	No. of Trees	Applications	No. of Trees	Applications	No. of Trees	Applications	No. of Trees
Beaufort	8	9,200	1	5,000	1	500	10	14,700	4	5,700
Camden										
Carteret	4	23,500	1	4,000	1	1,500	6	29,000	3	23,000
Chowan	1	2,000			1	500	2	2,500		
Craven	6	5,350					6	5,350	6	5,350
Currituck	3	2,500			4	12,000	7	14,500	2	1,500
Dare	2	9,500					2	9,500	2	2,500
Gates	2	1,500					2	1,500	1	1,000
Hyde										
Jones	3	7,250					3	7,250	2	2,250
Onslow										
Pamlico			2	2,000			2	2,000		
Pasquotank										
Perquimans	2	8,200					2	8,200	2	8,200
Tyrrell										
Washington	2	13,100					2	13,100	1	100
Totals	33	82,100	4	11,000	7	14,500	44	107,600	23	49,600

Summary of Trees Placed by Extension Personnel
Northeastern District
1954-55 Planting Season

Table 3

County	Adult Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to 4-H		Totals		Christmas Trees	
	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees
Bertie	2	3,500			2	1,000	4	4,500	1	3,000
Edgecombe	4	7,500			1	500	5	8,000	3	1,500
Franklin	4	9,500			5	11,500	9	21,000	2	1,000
Granville	3	20,000			7	11,000	10	31,000		
Greene					1	500	1	500		
Halifax	3	6,000					3	6,000		
Hertford	5	48,500					5	48,500		
Johnston	9	7,500			10	8,500	19	16,000	6	4,500
Lenoir	17	16,850	2	6,000	1	500	20	23,350	5	4,000
Martin					1	1,000	1	1,000		
Nash	8	11,000			7	7,700	15	18,700	8	10,500
Northampton	4	4,000			2	4,000	6	8,000	1	500
Pitt	10	6,700	1	5,000	6	13,600	17	25,300	7	5,000
Vance	3	3,000			5	16,550	8	19,550	3	3,000
Wake	6	11,100	5	3,900	3	2,500	14	17,500	5	11,000
Warren	1	500			2	6,000	3	6,500		
Wayne	8	9,600			9	20,500	17	30,100	5	6,000
Wilson	1	2,000					1	2,000		
Totals	88	167,250	8	14,900	62	105,350	158	287,500	46	50,000

Summary of Trees Placed by Extension Personnel
Southeastern District
1954-55 Planting Season

Table 4

County	Adult Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to 4-H		Totals		Christmas Trees	
	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees
Anson	9	35,000	32	111,500	22	41,100	63	187,600	3	6,000
Bladen	7	18,500	17	58,000	42	61,250	66	137,750	3	5,000
Brunswick	2	70,000	1	500			3	70,500	1	20,000
Columbus	6	19,450	1	4,000	13	13,000	20	36,450	3	16,200
Cumberland	14	13,500	5	12,000	9	12,100	28	37,600	9	7,000
Duplin	9	10,500	2	8,000	8	16,000	19	34,500	7	6,500
Harnett	2	2,000			12	10,000	14	12,000		
Hoke	12	88,500	18	86,000	7	9,800	37	184,300	4	5,500
Lee	5	3,500	2	8,000	1	3,000	8	14,500	3	2,000
Montgomery	21	65,500	16	55,000	38	69,500	75	190,000	6	4,000
Moore	10	23,000	13	61,000	29	72,750	52	156,750	3	2,000
New Hanover	3	1,500	5	19,000			8	20,500	3	1,500
Pender	2	1,500	2	3,000	4	2,500	8	7,000	2	1,500
Richmond	7	23,000	10	39,500	9	16,500	26	79,000	2	1,500
Robeson	6	10,500	4	8,000	15	13,500	25	32,000	2	5,000
Sampson	2	3,000	2	5,500	19	30,000	23	38,500		
Scotland	6	45,500	36	140,500	5	16,500	47	202,500	3	4,500
Totals	123	434,450	166	619,500	233	387,500	522	1,441,450	54	88,200

Summary of Trees Placed by Extension Personnel
Northwestern District
1954-55 Planting Season

Table 5

County	Adult Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to 4-H		Totals		Christmas Trees	
	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees
Alamance	5	6,500	3	5,000	6	7,250	14	18,750	1	2,000
Alleghany	7	24,000			8	18,500	15	42,500	1	500
Ashe	5	36,000			2	3,000	7	39,000		
Caswell	2	4,000	1	5,000	12	18,700	15	27,700		
Chatham	7	20,500	15	68,500	9	21,000	31	110,000	2	8,500
Davidson	2	2,550			9	5,000	11	7,550		
Durham	3	1,700			3	4,000	6	5,700	2	1,200
Forsyth	4	31,000			3	2,000	7	3,300	1	29,000
Guilford	6	8,525			2	2,000	8	10,525	2	2,500
Orange	1	1,000	2	2,500	18	11,600	21	15,100		
Person	2	1,200			3	6,000	5	7,200		
Randolph	3	5,000	11	31,550	26	42,550	40	79,100		
Rockingham	9	9,000			4	2,000	13	11,000	2	1,500
Stokes					14	18,100	14	18,100		
Surry	3	7,500			5	4,500	8	12,000		
Wilkes	7	16,500			15	15,600	22	32,100	2	5,000
Yadkin					14	16,100	14	16,100		
Totals	66	174,975	32	112,550	153	197,900	251	485,425	13	50,200

Summary of Trees Placed by Extension Personnel
Southwestern District
1954-55 Planting Season

Table 6

County	Adult Purchase Trees		Pulpwood Industry Free Trees to Adults		Pulpwood Industry Free Trees to 4-H		Totals		Christmas Trees	
	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees
Alexander	1	1,000			7	7,500	8	8,500		
Burke	8	35,500			34	37,500	42	73,000	2	3,000
Cabarrus	18	23,100			3	4,000	21	27,100	2	3,500
Caldwell	4	6,500			33	48,000	37	54,500		
Catawba	6	9,000			24	33,000	30	42,000	2	2,500
Cleveland	14	21,750			14	22,000	28	43,750	4	6,500
Davie	3	4,500					3	4,500		
Gaston	4	4,500	1	6,000	26	28,300	31	38,800	1	1,000
Iredell	9	27,500	1	1,000	13	18,000	23	46,500		
Lincoln	10	19,500					10	19,500		
McDowell	2	6,000			19	22,950	21	28,950		
Mecklenburg	17	35,000	22	51,000	7	13,500	46	99,500	7	8,700
Polk	5	9,000			37	72,500	42	81,500	1	500
Rowan	12	42,000			18	12,000	30	54,000	2	2,000
Rutherford	21	85,300			94	161,000	115	246,300	5	4,800
Stanly					15	17,500	15	17,500		
Union	5	6,500	25	68,500	22	36,700	52	111,700		
Totals	139	336,650	49	126,500	366	534,450	554	997,600	26	32,500

Summary of Trees Placed by Extension Personnel
Western District
1954-55 Planting Season

Table 7

County	Adult Purchase Trees		T. V. A. Free Trees to Adults		T. V. A. Free Trees to 4-H		Totals		Christmas Trees	
	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees	Appli-cations	No. of Trees
Avery			12	21,000	20	30,000	32	51,000		
Buncombe			40	53,000	11	30,500	51	83,500		
Cherokee	2	30,000	41	305,500	45	302,000	88	637,500		
Clay			7	34,500	20	80,000	27	114,500		
Graham			15	50,000	33	56,000	48	106,000		
Haywood			29	46,000	160	90,500	189	136,500		
Henderson	4	9,500	12	24,000	18	50,000	34	83,500	1	1,000
Jackson			26	100,000	20	96,500	46	196,500		
Macon	2	2,000	59	187,000	10	32,000	71	221,000		
Madison			6	20,000	2	3,000	8	23,000		
Mitchell	1	3,000	25	100,000	24	100,000	50	203,000		
Swain			30	60,000	27	31,000	57	91,000		
Transylvania			24	67,500	20	60,000	44	127,500		
Watauga	1	15,000	20	50,000	9	32,000	30	97,000		
Yancey			10	30,000	8	8,500	18	38,500		
Totals	10	59,500	356	1,148,500	427	1,002,000	793	2,210,000	1	1,000