

Office

NORTH CAROLINA

Agricultural Extension Service

AGRICULTURAL ENGINEERING EXTENSION PLAN OF WORK

FOR

1951

Major phases of project
on subdivisions of
project covered

Name of Worker*

Percentage of time
devoted to entire
project by each worker

FARM DRAINAGE
IRRIGATION
SOIL CONSERVATION
WATER SYSTEMS
BUILDINGS PLAN SERVICE
GENERAL

H. M. ELLIS

FULL TIME

FARM MACHINERY
COTTON GINS

J. C. FERGUSON

FULL TIME

FARM BUILDINGS
BUILDINGS PLAN SERVICE

R. M. RITCHIE, JR.

FULL TIME

SPECIAL HOUSING PROJECT

W. C. WARRICK

FULL TIME

CROP DRYING
RURAL ELECTRIFICATION

E. S. COATES

FULL TIME

Date Submitted: January 23, 1951

Signed: A. M. Ellis
Project Leader

Date Approved: _____, 195

Signed: _____
Asst. State Director of Extension

Date Approved: _____, 195

Signed: _____
Director of Extension Work
U. S. Department of Agriculture

*If phases of project are divided between two or more workers, indicate assignment to each.

PLAN OF WORK - 1951
AGRICULTURAL ENGINEERING EXTENSION

H. M. ELLIS, IN CHARGE, AGRICULTURAL ENGINEERING EXTENSION
(Drainage, Irrigation, Soil Conservation, Water systems, Buildings Plan Service, General)

J. C. FERGUSON, AGRICULTURAL ENG. EXTENSION SPECIALIST
(Farm Machinery, Cotton Gins)

R. M. RITCHIE, JR., AGR. ENGINEERING EXT. SPECIALIST
(Farm Buildings, Buildings Plan Service)

W. C. WARRICK, AGRICULTURAL ENGINEERING EXT. SPECIALIST
(Special Housing Project)

E. S. COATES, AGRICULTURAL ENGINEERING EXT. SPECIALIST
(Crop Drying, Rural Electrification)

D. S. WEAVER, DIRECTOR

NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE
NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
OF
THE UNIVERSITY OF NORTH CAROLINA
AND

UNITED STATES DEPARTMENT OF AGRICULTURE, COOPERATING
STATE COLLEGE STATION,

RALEIGH

NORTH CAROLINA

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A BRIEF STATEMENT REGARDING THE PRESENT
SITUATION WHICH SHOULD GOVERN EXTENSION WORK-
ERS' PLANS IN THE FIELD OF AGRICULTURAL ENGINEERING

FARM MACHINERY:

The mechanization of North Carolina farming should continue at a rapid rate. General care, operation and maintenance of power machinery should be stressed. Power should be in keeping with farm requirements.

FARM BUILDINGS:

Construction costs are rising; certain building materials are gradually becoming more difficult to find. We should not be too promotional minded in this phase of work, but should not show a discouraging attitude to those in position to go ahead with building. If we ask them to wait, for what are we asking them to wait? Before construction is begun, however, scarce articles should either be on hand or within sight.

DRAINAGE:

Farm Mechanization requires fair uniformity of land drainage. The over-all Extension program has been (and must remain) geared toward more efficient production. The drainage program for 1951 is as timely as it has ever been at any time.

IRRIGATION:

Possibilities are good. Continue to work toward good demonstrations. Industry will promote it as fast as we care for it to go.

SOIL CONSERVATION:

The surface has barely been scratched. We should remember that our responsibility is the EDUCATIONAL PHASE, and shape our plans accordingly.

CROP DRYING:

Crop drying is rapidly becoming a MUST with North Carolina farmers. Many of our farmers are confronted each year with the problem of storing, or of marketing moist grain. Wherever practical, farmers should be encouraged to install equipment for drying grain and hay crops.

*and copy to
B. B. Hoffman*

WATER SYSTEMS:

The installation of running water in rural home kitchens has not kept pace with our rural electrification program. People buy, usually, what they wish to buy. Until we cause them to desire running water in their homes we have not done our work well. This is an improvement that should be made in the homes of the lowest income groups because it is a practical improvement.

RURAL TELEPHONES:

In our changing world telephones are becoming more and more necessary every day. From selling a hog, to summoning a doctor for a sick baby, a telephone is almost indispensable. Rural telephones will work magic changes in our rural social and economic structure.

A PLAN OF SPECIALISTS' WORK AT THE STATE LEVEL

Line of Work

195

List the number of days required by months for each type of work

[illegible]

FARM MACHINERY

The armed services and industry will draw heavily on the 1951 farm labor supply and with the increased demands for food and fiber crops, North Carolina farmers are faced with many production problems in 1951.

Due to labor difficulties and shortages of materials, current production of farm machinery has not kept pace with the increased demand. Output in 1950 was below that of 1949, and the 1951 production will certainly be less than for 1950.

North Carolina farmers are now operating more than 63,000 farm tractors, many of which are more than 10 years old and these should be replaced because of wear and also because of obsolescence.

Tobacco production requires a limited supply of workstock, in addition to tractor power. However, many farmers other than tobacco farmers maintain workstock that cannot be economically justified. Numbers of farmers are not using their tractors as efficiently as is possible because of a lack of equipment. Many have only plows and harrows. This limits the use of the tractor largely to land preparation. The investment in workstock, plus the annual feeding cost, would, in many instances, supply necessary implements, which, if used would practically eliminate the need for workstock on an average North Carolina farm.

With expected shortages and high prices, special emphasis should be put on the conservation of machinery. This involves the training of more skilful operators, the making of more careful adjustments and repairs, and the proper maintenance of not only the tractor but all associated equipment.

For several years numerous tractor maintenance schools have been held throughout the State for both adults and 4-H club members. While these schools are only 3 to 6 hours long, and cover only operator care, they serve to better acquaint the farmer with the importance of systematic service and maintenance. Too often an expensive tractor, through neglect, is worn out in a matter of two or three years, when it could be made to run for ten years, with only minor repairs. Local implement dealers have been very cooperative in sponsoring this effort, and have, in many instances allowed us to use their shop and its facilities in conducting the schools.

For 1951, 35 counties have requested assistance with tractor maintenance schools. Special schools dealing with maintenance and selection of farm machinery will also be scheduled.

Two, 3-day tractor maintenance schools for 4-H members, leaders and assistant agents have been scheduled for January. These will be held in the Agricultural Engineering building on the State College campus, and we will use the equipment and facilities of that Department. Forty central and eastern counties have been invited to send delegates.

A third school, similar to these, will be scheduled late in 1951 for Piedmont and Mountain counties, at Waynesville 4-H Camp.

This training of 4-H leaders is somewhat intensive and it involves the actual practice in making adjustments, in operating the equipment and in making repairs.

Following these schools assistance will be given to assistant agents and to local leaders in conducting 4-H tractor schools and demonstrations at the county level.

The Agricultural Engineering Department assisted two counties in holding 4-H tractor driving contests in 1950, and several other counties will hold such contests in 1951.

Ten counties have requested assistance with farm machinery field day. These field days vary in scope from a demonstration of some particular phase of equipment or practice, to a county-wide, all-out machinery show and demonstration, in which all local implement dealers are invited to participate.

There is wide spread interest now in chemical weed control and in the use of chemicals to control canal and ditch bank vegetation. Cooperative work will be done with members of the Agronomy Department in this field.

In 1950, anhydrous ammonia was used on a commercial scale for the first time in North Carolina by a group of Scotland County farmers. Other communities are becoming interested and an educational meeting was held in Elizabeth City in November 1950 to acquaint farmers with the possibilities in the use of anhydrous ammonia. Tentative plans are made to conduct field demonstrations in the Elizabeth City area in 1951 to show method of its application and its adaptability to local crops. This will be a cooperative project with the Agronomy Department.

In late 1950, 12 small grain seeding demonstrations were conducted jointly with the Agronomy Dept. Recently developed seeding equipment was used with special emphasis on timely seeding, adaptable varieties and soil fertility. This project will carry over into 1951, with top dressing and chemical weed control demonstrations on the several 5-acre plots.

Joint projects with Agronomy, Entomology, and others will be arranged as the demand justifies in 1951. Three such projects under consideration are complete cultivation of tobacco, with high clearance tractors, close space planting, cultivation, and harvesting of peanuts, and cotton spraying and dusting demonstrations.

Farm machinery exhibits and demonstrations have become a major phase of the annual FARM AND HOME WEEK. While attendance at the 1950 Farm and Home Week was disappointing an excellent display of farm machinery and other equipment was arranged by manufacturers and their local dealers. A planting and cultivating field demonstration was arranged in which ten manufacturers participated. A similar program will be arranged for 1951. From two to three weeks is required to plan and execute this program.

The responsibility of directing the farm machinery department of the N. C. State Fair is delegated to the Farm Machinery Specialist in Agricultural Engineering Extension. State Fair facilities are being enlarged for 1951, and a creditable exhibit is anticipated.

Many special requests for assistance, not included in the annual county plans of work are received throughout the year, from county agents, individual farmers and specialists in other fields of work. Such requests are fitted into the schedule and are handled as soon as possible.

Cotton Ginning:

Extension cotton gin work includes the conducting of cotton gin operator schools, field service to individual cotton gin owners and operators, along with general educational cotton meetings. With a 16,000,000 bale crop in demand for 1951, extension work on this crop will be intensified in an effort to stimulate interest and share equitably in the national production goal.

Since cotton ginnerers are dependent on a cotton crop for a return on their investment they are keenly interested in promotional work among farmers and lend their full support to Extension work in this field.

North Carolina ginnerers have made rapid progress in recent years in the improvement of their facilities. Many thousands of dollars were spent in 1950 for improvements but due to the short crop and the smallest volume of ginning on record for many of our gins, only limited repairs and replacements will be made in 1951.

Cotton gin operator schools will be conducted in 1951, as the demand justifies. Normally, these schools are held jointly with the State Department of Agriculture which has a staff of three who inspect and supervise ginning operations.

PLAN OF WORK - 1951

FARM BUILDINGS:

North Carolina farmers are in the midst of a shift from an agriculture based almost entirely on crop farming to a type of farming with increased emphasis on livestock, poultry and dairying. This shift will continue in spite of high costs and possible war-time restrictions. A great deal of building must accompany this adding of new enterprises on many of our farms. The demand for information on farm building plans and construction methods is expected to continue.

Because of high costs and the uncertainty of the future it is important that farmers have the best available information on buildings that can be constructed at minimum cost, consistent with sound construction and efficient operation.

Our housing needs are still great. In spite of the great amount of building in recent years, many families are still without adequate shelter, and they face the prospect of another period of scarce materials and government restrictions. Some of these families are not financially able to build adequate homes. Others have been saving their money and waiting for the right time to build and many have decided that although this is not a good time to build, still there may not be a better time for several years. For this reason, interest in building is intense in spite of high costs.

Availability of materials will be the determining factor in rural home building for 1951 and unless government restrictions are imposed, building will continue at a high level.

Research is needed in functional requirements for buildings of all types, including dwellings, livestock, poultry, and storage buildings for our climate and our type of farming. Too many of our buildings designs are based on research, or on practices in other regions. Additional research data are needed on the application of many relatively new building materials.

MAJOR PROBLEMS:

Many agents do not feel qualified to give advice and to conduct meetings and demonstrations on subjects related to buildings. This shows that the specialists need to do more training of the agents.

A number of plans in the plan service should be revised or replaced. The plan list needs revision, but this work has been postponed pending receipt of new plan lists from the USDA, and available time in which to do the work.

Information on buildings should be presented in a form that would be more understandable and more acceptable to rural people.

Increased cooperation is needed between extension workers

and local builders and dealers to insure the use of better plans and better construction methods.

ACTIVITY GOALS IN 1951:

Specialist days in field	123	Demonstration outlines	
" " " office	200	to prepare for agents	2
Agent conferences & visits	50	News articles and radio	
To assist with meetings	31	talks	5
" conduct construction demon-		Extension circulars	1
strations	13	Circular letters	6
New plans to be prepared	2		
Old " " " revised	12		

METHODS OF PROCEDURE:

Assistance will be given with meetings and demonstrations in counties, where requested. A variety of meetings is planned, including special interest meetings on home building, home remodeling, home heating, general farm buildings meetings, and meetings on specialized types of farm buildings.

One county plans a two-day school on home remodeling which will feature exhibits by local dealers and will include discussion on space planning, construction, heating, water and electrical systems, interior decorating, and financing.

Construction demonstrations planned are two on concrete floors for grade-A dairies, one on kitchen cabinet construction, and eight on construction of approved type flue-cured tobacco barn ridge ventilators.

The tobacco barn demonstration has been successfully used the past two years to encourage wider adoption by farmers of a type of ventilator used and recommended by the Oxford Experiment Station for several years.

The kitchen cabinet construction demonstration will serve as a training school for a group of Negro leaders interested in low-cost, homemade, kitchen cabinets.

More emphasis will be placed on preparation of educational materials and in training agents to use these as an aid in conducting their county programs. Materials already available are a flannelboard type demonstration on home remodeling, and a set of slides with accompanying script on home heating. Slides secured from the special result demonstration project (described elsewhere in this plan of work) are being used to prepare a slide set on home design and construction.

Considerable time is being given to the accumulation and indexing of a slide file to cover all phases of farm dwelling construction, and other types of farm buildings.

A slide set is now being prepared on simple home improvements and repairs. These will emphasize the work that even a tenant family can do to make the home more livable, at low cost. While these were primarily designed for use with low income groups they are also applicable to other groups if restrictions make materials so unavailable that only emergency building can be done.

In the plan service, emphasis will be on publication of a revised plan list to supplement the plan list for Southern States now being prepared by the USDA. As far as time and funds permit, this plan list will be illustrated with pictures, or perspective drawings so that each farm and home agent will have a complete, illustrated list of all plans available through our plan service. We particularly need an illustrated list for our farm dwellings' plans because we now have so many that a family cannot make a good choice from only a description.

As much time as is available will be given to revising our existing plans and to adding new ones as requested by other subject matter specialists.

COOPERATION:

All departments will cooperate in the consultation as to new plans and revision of present plans, related to their particular field.

The Farmers Home Administration uses some of our house plans in connection with farm housing loan program. For these they prepared complete bills of materials and specifications which they made available to us and which we now use.

The Portland Cement Association will cooperate in furnishing publications and information on use of concrete on the farm.

Close cooperation will be maintained between specialists and district and county agents in conducting buildings programs.

PUBLICATIONS; VISUAL AIDS:

Circular: Supplement to USDA plan list (500 copies)
 Slide Set: Home Design & Construction (From Result Dem.)
 Slide Set: Simple Farm Home Repairs and Improvements

RESULT DEMONSTRATIONS IN FARM BUILDINGS - 1951

I. Analysis of Project Situation:

The promotion of better living conditions for rural people is the primary concern of all extension workers, yet until 1950 there had never been a state-wide program on result demonstrations in rural dwellings because of lack of funds to employ a full-time specialist to work on housing.

Through the Federal Housing Act of 1949 the Federal Government supplied funds for the partial salary of a full-time employee on Extension housing for the year 1949-50. The program was started in North Carolina in February 1950. For 1950-51 the worker will be paid entirely by state funds since Federal funds were not appropriated for continuance of the work.

Inasmuch as no research has been done in North Carolina on construction, functional requirements, cost, nor on the use of farm labor and materials in house construction, result demonstrations will provide information that is greatly needed.

The educational and visual aids materials that we are obtaining from these result demonstration houses will to some extent offset the lack of research in rural houses.

II. Major Problems:

- a. Farm carpenters' lack of knowledge of good building practices.
- b. County agents' lack of training.
- c. Difficulty in locating representative families who are interested, willing to cooperate and financially able to build.
- d. World situation.

III. Goals for 1951:

a. Activity Goals:

We anticipate that there will be from 12 to 18 result demonstration houses under construction continuously.

b. Result Goals:

1. Completion of 14 houses begun, but not completed, in 1950.
2. " of additional " " and completed in 1951.
3. "Before" and "after" color slides of construction progress of the above houses.
4. Statistical data on buildings costs of these houses.
5. New house plans adapted to present day functional requirements.
6. Ideas for improving some of our present house plans to bring them up-to-date in functional requirements.

IV. Method Procedure:

It will be required that each project be cooperative work between the county farm agent and home demonstration agent.

- b. Agents will locate families, suitable to carry out result demonstrations.
- c. Specialist, with agents, will adapt a house plan to the family and will take into consideration the family's needs, their habits, and their paying ability.
- d. The specialist, always accompanied by agents, will visit each project approximately six times to supervise and check on construction. Progressive pictures will be made by specialist.
- e. Outline blanks will be furnished each demonstration family on which they are to record all labor and material costs that can later be used in educational work. These data will be collected by the specialist at completion of each project.
- f. The specialist will make suggestions and will assist with method demonstrations that the agents may carry out in construction methods, etc., at the result demonstration houses during construction.

V. Cooperation:

Cooperation with other Government agencies and with commercial concerns will be practiced in these demonstrations. County sanitarians, power companies, paint companies, one major sanding machine company, and wall board manufacturers have said they will assist in the demonstrations. Other Extension Departments concerned will be consulted and will be asked for assistance with these projects.

VI. Publications, Visual Aids, other teaching aids:

Colored slides that show progressive steps in construction of new and remodeled demonstration house, with "before" and "after" pictures of both exteriors and interior pictures on remodeled houses will be filed for use in educational work by specialists and agents.

A reference file on cost data of labor and materials will be established.

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RURAL ELECTRIFICATION - 1951

North Carolina, for the second year, is above the national average in the percent of farms electrified, but still it ranks 24th in the percent of farms electrified. It ranks 2nd in the nation in the total number of farms, and second with the number of farms with electric service. Of North Carolina's 287,412 farms, 88.6% are electrified and 26,328 farms were connected with electric service from July 1949 to July 1950.

Since January 1935, when only 9,672 farms had electric service, emphasis has been placed on increasing the number of rural consumers. In 1951 it is expected that a large number of rural families will request electric service, since many feel that they have waited long enough for this much needed convenience.

While it is important to electrify all farms in the State it is of equal importance to educate rural consumers in the efficient use of electricity so as to raise the standard of living.

The markets are crowded with many types and makes of electrical equipment and rural people need to be well informed on how to buy wisely and how to properly care for their equipment when it is installed.

Farm and home agents have frequent requests for information on use and care of electrical equipment. The source of many of these requests is from 4-H club members who participate in the FARM AND HOME ELECTRIC PROGRAM. This program makes a broad knowledge of electricity and its applications a requisite for all agents. We plan to concentrate on training agents and in assisting them in meetings and activities on which they need help from us.

Major Problems:

1. Preparation of subject matter material on uses of electricity for farm and the home.
2. Preparation of demonstrations on use and care of electrical equipment on farm and in the home.
3. Making information on the Farm and Home Elec. Project available to agents in an acceptable form for teaching.
4. Training agents who require it, concerning Farm and Home Electric Project.
5. Securing cooperation of electric power companies in preparation of educational material as to uses of electricity, for distribution to rural people.

Activity Goals:

- 45 specialist days in field
- 65 " " " office
- 5 training meetings at agents' conferences
- 15 conferences and visits with agents
- 2 circular letter
- 37 counties to be assisted
- 5 demonstration outlines prepared for 4-H club use
- 6 news articles and radio talks

Methods of Procedure:

1. District Agents' Conferences: Train agents in methods of promoting the Farm and Home Elec. Program in 4-H club.
2. Meetings and Demonstrations: Special interest meetings for 4-H clubs, community groups, and county groups who are interested in the most efficient and profitable utilization of electricity on the farm and in the home.
3. Agents' conferences and visits: Visits will be made to discuss Farm and Home Elec. Program with agents, and how it can best be promoted on the farm level.
4. Preparation of Educational Material: - For the use of agents in conducting meetings. Also material will be prepared for the use of 4-H club members in conducting the Farm and Home Electric Project, material for reference and demonstrations.
5. Publicity: News articles and radio talks on timely topics will be released by the State Office, and will be prepared in this Department.

Cooperation:

The Home Management Department will cooperate in the preparation of material and in promotion of the program.

The electric power companies will cooperate in furnishing assistance to agents and in supplying educational material when requested. They will furnish awards to 4-H club winners on county and territorial levels.

The WESTINGHOUSE ELECTRIC CORPORATION will furnish educational material, and will give awards to 4-H winners on county and state levels.

Close cooperation will be maintained between the State 4-H Office specialists, and between the District Agents and County Agents in promoting the electrification program.

CROP DRYING

Crop drying is rapidly becoming a "must" with North Carolina farmers, for climatic conditions that favor production of crops are also a handicap to good harvesting. With an annual rainfall of 40-55 inches, and with high summer temperatures, damage to grain, seed, and hay crops is excessively high. Weather damage to hay crops amounts to approximately 1½ million dollars annually.

Distribution of crops in North Carolina lends itself well to some system of crop drying. Ten principal crops have need of artificial drying or curing; eight of these are grown in clearly defined areas, and 74 of the 100 counties grow one or more of them. Twenty-one counties grow from 5 to 7 of these crops.

It has been found that a farm crop drier may be profitably operated a large part of the year, and if a farm crop drier is practical for only 5% of North Carolina farms there is a potential of 12,500 installations. Many farmers each year have the problem of marketing or storing moist grain, so that wherever practical, a farmer should be encouraged to install equipment for drying grain and hay crops.

More research is needed on the distribution of air through drying installations. Better machinery is needed to reduce labor costs in loading hay on drying systems. Since there is more demand for drying hay in bales more work should be done to establish uniform density in the bale.

Major Problems:

1. Education of farmers to benefits of artificial drying. Comparison of cost of installation of driers to amounts lost in crops from weather damage.
2. Training agents to promote crop drying and to be able to assist in designing a drying installation.
3. Preparing and presenting educational information to show practicability of crop drying.
4. Securing cooperation of commercial firms in properly presenting facts to prospective buyers of equipment.

Activity Goals:

- 72 specialist days in field
- 90 " " " office
- 21 agents conferences and visits
- 47 counties assisted
- 5 news articles and radio talks prepared

Methods of Procedure:

1. Meetings and demonstrations : Construction demonstrations where field demonstrations are conducted to show methods of construction and designing of crop drying systems. Special interest meetings for groups interested in installation of hay, grain or seed drying systems. Result demonstrations in grain drying, where one or more crops are dried on the same system.
2. Agents conferences and visits. Conferences in agent's office for training, and visits made with him to assist farmers to plan drying installations.

3. Preparation of teaching material for agents to use in education of farmers as to benefits of crop drying.
4. Plan Service: Following visit to farmers who plans to install drier, plans for his use in construction, will be drawn.
5. Publicity: Timely material will be furnished the State office for news articles, and special articles for various counties.

Cooperation:

Research and Extension Departments will cooperate in working on problems that arise, concerning new installations.

Production and Marketing Administration will cooperate by making loans to farmers who desire to install a crop drier.

PLAN OF WORK - 1951

1952

DRAINAGE

Project Situation:

North Carolina farming is rapidly becoming mechanized, and mechanized farming demands uniformly drained fields. Wet spots that could be tolerated with horse-drawn equipment must be eliminated if modern machinery is to be used efficiently.

Trends toward livestock farming present numerous problems. Extremely low, wet places are being surface-drained to provide additional pasturage.

In North Carolina, approximately 4,000,000 acres are poorly drained. This includes woodlands, muck soil, wet sands as well as the areas that are cleared. Soils and drainage specialists estimate that 1/4 of the four million acres is in cultivation and that 980,000 acres have some form of drainage, but that not more than 1/5 of this 980,000 acres has adequate drainage for the crops commonly grown in the area. Inadequate drainage of potentially good agricultural land is a state-wide problem.

A cooperative research project is being conducted by the North Carolina Experiment Station and the Soil Conservation Service to determine the type drainage best adapted for each major soil type and also to determine proper spacing and depth for tile and open ditches.

The overall agricultural Extension program has been (and must remain) geared toward more efficient production. This is a sound reason for having adequately drained land.

Major Problems:

1. Lack of satisfactory outlets.
2. " " information on hard-to-drain soils
3. " " trained personnel

Activity Goals:

18	21	specialist days in field assisting in conducting county programs
28	30	" " " office preparing educational material to aid in county programs
6	6	" " " office in cooperative work with PMA and SCS programs
12	18	demonstration meetings conducted by specialist
Leave out	8	community drainage projects in which specialist will assist county agents, as needed.
✓ ✓	70	county agents to receive assistance
4	4	news articles.

Methods of Procedure:

We will assist agents in planning and conducting their county programs. The specialist will hold educational meetings, conduct preliminary surveys, hold tile laying demonstrations, primarily for the benefit of the agent. The agent will not be expected to launch a personal service program, but our demonstrations should enable him to conduct similar demonstrations and to make sound recommendations. He will be supplied with teaching aids, so that he may feel confidence in carrying on the work. Trips to the counties by the specialist for follow-up work cannot be listed in a plan of work, but these follow-up trips will be cared for in our unallotted time.

Cooperation:

<u>Name of Agency</u>	<u>Assistance to be given</u>	<u>Assistance to be received</u>
PRODUCTION MARKETING ADMR.	Committee work on preparation of specifications for soil building practices and engineering advice on special problems.	Stimulation of program through payment to farmers for drainage practices.
SOIL CONSERVATION SERVICE	<ol style="list-style-type: none">1. Preparation of specifications for all drainage practices.2. Will work together on many of the county demonstrations.	<ol style="list-style-type: none">1. SCS technician will make surveys for community projects.2. Will work together on many of the county demonstrations.
VOCATIONAL TEACHERS	They will be invited to attend (and bring their students) to the county demonstrations.	Teachers will assist in making surveys and will promote programs in other ways.

IRRIGATION

Project Situation:

Irrigation has proven a profitable practice for many crops grown in North Carolina. Even though located in the humid area, some sections of this state experience a damaging drought each year.

In the past few years the interest of farmers in irrigation has increased rapidly. Irrigation in this time increased from a few acres to an estimated 7500 acres. Major crops (now under irrigation to a limited extent) include Irish potatoes, general truck crops, tobacco, peaches and pasturage. The pioneers in the use of irrigation equipment in the state were blueberry and flower growers.

Portable, revolving sprinkler systems are best suited to the needs of our farmers. Until the declaration of a national emergency all indications were that there would be a large expansion

in irrigation installations and large annual increases in acreage under irrigation. Now that practically all parts of sprinkler equipment will be short due to the defense program there will be only a small increase in the installation or irrigation systems.

Major Problems

1. Lack of "know-how"
 - A. Little information on infiltration rate of soils
 - B. " " " water requirements of crops grown, ~~much~~ and results of watering (such as increasing susceptibility of plants to disease)
2. Lack of trained personnel in agencies of USDA and in sales organizations.

Activity Goals:

20	16 specialist days in the field
30	30 " " " " office
50	50 agents to be assisted
10	12 preliminary surveys to be made (for demonstrations and for training agents.)
6	2 county-wide demonstrations of portable irrigation systems
Leaveout	3 educational meetings
8	3 circular letters
3	3 news articles
	insert "A"

Cooperation:

Subject matter specialists of other departments will cooperate in conducting demonstrations, as will dealers and manufacturers of irrigation equipment. Vocational teachers and SCS technicians will be invited to participate in all method demonstrations.

Visual Aids:

Work will be continued in building up a set of slides for the use of agents in conducting educational meetings.

SOIL CONSERVATION

From more than 22% of the total land area of North Carolina erosion has stripped 1/3 or more of its topsoil. The Piedmont section which covers about 1/3 of the State has suffered the greatest loss. In ten of the worst eroded Piedmont counties around 25% of the area has been abandoned.

The Extension Agricultural Engineering Department is concerned with the educational program of the engineering phases of all conservation programs in the State. The county programs are well organized and the county agents well informed. The bulk of the field work is being conducted by the Soil Conservation Service and little field work is planned by the Agricultural Engineering Extension specialist.

Planning and Teaching Activities:

8	10 specialist days in the field
15	15 " " " " office
85	agents participating in the program
6	6 method demonstration county meetings
3	3 circular letters
3	3 news articles
4	3 State Level conferences with PMA and SCS officials

Cooperation:

<u>Agencies</u>	<u>Assistance to be given</u>	<u>Assistance to be received</u>
PRODUCTION and MARKETING ADMR.	in preparation of specifications for earth moving practices.	Stimulation of program through incentive payments.
SOIL CONSERVATION SERVICE	Conducting educational program and in coordinating work.	Conducting action program through Soil Conservation districts.
VOCATIONAL TEACHERS	Furnishing educational materials and inviting them to participate in demonstrations.	Helping in training farmers and making farm visits on follow-up work.

WATER SYSTEMS

The need for improvements to the farmstead water system was stressed more than any other phase of agricultural engineering, at the District Program Planning conferences.

Installation of running water in the kitchens of rural homes has lagged behind the electrification program to an alarming extent. This is an improvement that should be made in the homes of the very lowest income groups. While 87% of our rural homes are electrified, we estimate that less than 25% of these have running water at the kitchen sink. The installation of running water is a practical investment of money and until our farmers know of its advantages, many other worth while programs are doomed to failure.

Major Problems:

1. Lack of income and improper use of income.
2. Large tenant population.
3. Farmers' lack of sufficient desire for the improvement.

Activity Goals:

- 30 specialist days in the field
- 35 " " " " " office
- 100 counties to participate
- 2 agents' training meetings at District Conference
- 26 Community (or county-wide) meetings conducted by specialist

- 3 news articles
- 4 circular letters
- 1 set of slides and script for agents' use in conducting meetings.
- 1 county meeting to plan with landlords and tenants for running water in homes of tenants.

Methods of Procedure:

The program will be outlined and every attempt will be made to encourage all agents to promote the program in their counties. This will be presented at the regular joint district program-planning conferences.

A set of slides will be made that will show possible improvements to farmstead water systems, for various income groups. A narrative script to be used with the slides will be provided for the agents to use. Special emphasis will be placed on running water for the low income farm owner and tenant.

Pilot meetings in certain counties will be conducted by the specialist. Conferences will be held with home and farm agents to train them and to acquaint them with teaching aids and factual information.

Cooperation:

Equipment dealers will be invited to participate by displaying equipment at educational meetings and method demonstrations.

Vocational teachers will be invited to participate.

GENERAL:

4-H Club Work:

Safety
Method demonstration outlines will be prepared as teaching aids for agents' use in conducting club meetings. Counties that request help will be assisted by specialists in conducting handicraft projects at their 4-H club camps.

Farm and Home Week:

All members of this Department will participate in conducting the FARM AND HOME WEEK program. Definite plans for this have not as yet been made but each of our five specialists in the Department will give at least two weeks in planning and in assisting with the program.

Safety and Fire Prevention:

Each Extension specialist in Agricultural Engineering is responsible for promoting safe practices in his field of work. Information on the programs for Fire Prevention, Spring Clean-up, and Safety are distributed from this office.

Special Farm Engineering Problems:

There are many farm problems of an engineering nature that confront us in the field and in office conferences. Urgent requests for assistance from agents come to us. A few of the problems that come to us are those on general sanitation, farm ponds, safety programs, fence construction demonstrations, farmstead planning, land clearing, special field days, etc.

Leave out Agricultural agencies who call on us for assistance are the test farms of the N.C. Dept. of Agriculture, and others.

For such phases of our program only tentative plans can be made. We set aside field and office days in which to assist with special problems, and these, of necessity, will be planned as the occasion arises.

A PLAN OF SPECIALISTS' WORK AT THE STATE LEVEL

Line of work AGRICULTURAL ENGINEERING EXTENSION 1951

H. M. Ellis

List the number of days required by months for each type of work

Write in Month and Specialist's name under each month	Preparation of bulletins	Preparation of educational materials	Preparation of news and radio material	Conferences in State and out-of-State	Training Schools	Office Conferences and Correspondence	Preparing your Plan of Work	Preparing your Annual Report	Days Allotted to Field Work	Holidays	Annual Leave	Unallotted Office Time	Total Days for Month
DECEMBER	5	5	1	1		7	2		3	6	2		26
JANUARY		4	1	1	2	9		3	7				27
FEBRUARY		6		1		8			6			3	24
MARCH		5	1	1		8			9			3	27
APRIL		3		1		8			8	1	1	3	25
MAY		5	1	1		7			8		1	4	27
JUNE		3	1	1		9			7		2	3	26
JULY		3	1	1		6			7	1	2	5	26
AUGUST		2	1	1		7			6		5	5	27
SEPT.		6		1		8			6	1		3	25
OCT.		4	1	1		7			7	1	2	4	27
NOV.		8	1	1		7			6			3	26
TOTALS		54	8	12	2	91	2	3	80	10	15	36	313

A PLAN OF SPECIALISTS' WORK AT THE STATE LEVEL

Line of work Agr. Eng. Ext.1951

W. C. WARRICK

List the number of days required by months for each type of work

Write in Month and Specialist's name under each month	Preparation of bulletins	Preparation of educational materials	Preparation of news and radio material	Conferences in State and out-of-State	Training Schools	Office Conferences and Correspondence	Preparing your Plan of Work	Preparing your Annual Report	Field	Holidays	Annual Leave	Unallotted Office Time	Total Days for Month
DEC.		4		1		3	2		10	6			26
JAN.		6		1		4		3	13				27
FEB.		5		1		4			14				24
MAR.		4		1		4			14	1	2	2	27
APR.		1				5			13		5		25
MAY		4				4			14		2	3	27
JUNE		4		1		4			10	1	2	5	26
JULY		4				5			7	1	2	7	26
AUG.		3		1		6			6	2	2	9	27
SEPT.		5		1		5			8	1		5	25
OCT.		6		1		5			5	1		9	27
NOV.		6		1		5			3			11	26
TOTALS		52		9		54	2	3	117	10	15	51	313

A PLAN OF SPECIALISTS' WORK AT THE STATE LEVEL

Line of work Agr. Eng. Ext.

1951

**Rural Electrification
Crop Drying**

List the number of days required by months for each type of work

Write in Month and Specialist's name under each month	Preparation of bulletins	Preparation of educational materials	Preparation of news and radio material	Conferences in State and out-of-State	Training Schools	Office Conferences and Correspondence	Preparing your Plan of Work	Preparing your Annual Report			Annual Leave	Unallotted Office Time	Total Days for Month
E.S.Coates													
Dec.		7	2			7	2				6	2	26
Jan.		4	1	2	3	3	3	3	5			3	27
Feb.		5		1		2			12			4	24
Mar.		4				1			18			4	27
Apr.		3	1	3		2			10			6	25
May		2	1	1		5			10			8	27
June		4				6			12			4	26
July		3				4			12		3	4	26
Aug.		2	1	1		5			11		6	1	27
Sept.		5	2	1					8		6	4	25
Oct.		2	1			6			13			5	27
Nov.		4	1	1		5			11		1	3	26
Totals		45	10	9	3	46	5	3	122		22	48	313

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work AGE, ENG. EXT. 195 1

Write in counties to be served for the month	Description of work to be done in counties	Days devoted to work by					Total Days to County
		ELLIS	FERGUSON	RITCHIE	WARRICK	COATES	
DECEMBER 1950							
Montgomery	Annex to County Agr. Bldg.	1					
Wilson	Farm ponds	1					
Wayne	Drainage	1					1
Martin	Farm Mch.		1				
Davie	"		1				1
Cleveland	"		1				1
Montgomery	Co. Agr. Bldg.			1			2
Durham	Housing Conf.			1			1
Jones	" "			1			1
Onslow	" "			1			1
Henderson	" Meeting			1			1
Haywood	" Visits			1			
Swain	" "			1			
Chatham	"				1		1
Gates	"				1		1
Haywood	"				1		
Iredell	"				1		1
Perquimans	"				1		1
Robeson	"				1		1
Lenoir	"				1		1
Henderson	"				1		2
Swain	"				1		2
Haywood	"				1		23
JANUARY 1951							
Terrell	Water Systems	1					1
Pitt	"	1					1
Durham	"	1					
Eastern Dist.	" " School	1					1
Durham	Drainage	1					
Wileson	4-H & Adult Tractor Schools	1	2				
Wakefax	Irrigation	1	6				
Haywood	Housing meeting			1			
Mitchell	"			1			2
Montgomery	"			1			6
Harnett	"			1			1
Johnston	"			1			1
Person	"			1			1
							1
							1
							1

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work AGR. ENG. EXT.195 1

Write in counties to be served for the month JANUARY 1951	Description of work to be done in counties	Days devoted to work by					Total Days to County
		ELLIS	FERGUSON	RITCHIE	WARRICK	COATES	
Orange	Farm Bldgs.			1			1
Swain	"			1			1
Wilson	Meeting			1			2
Chowan	"			1			
Durham	Housing School			2			4
Hertford	Conference			1			1
Currituck	"			1			
Alamance	"				1		1
Bertie	"				1		1
Caswell	"				1		1
Caldwell	"				1		1
Currituck	"				1		
Durham	"				1		1
Gates	"				1		1
Halifax	"				1		
Iredell	"				1		1
Lenoir	"				1		1
Perquimans	"				1		1
Robeson	"				1		3
Stokes	"				1		1
Buncombe	Farm and Home Elec.					1	1
Chatham	"					1	1
Chowan	"					2	3
Currituck	"					1	3
Clay	Grain drying					1	1
Halifax	" demonstration					1	3
FEBRUARY 1951							
Cumberland	Drainage	1					
Edgecombe	"	1					
Hyde	"	1					
Wayne	"	1					1
Wilson	Irrigation	1					1
Lenoir	Water System	1					1
Cumberland	Adult Tractor School		1				1
Harnett	"		1				2
Burke	"		1				1
"	"		1				1
Anson	"		1				
Rutherford	"		1				1
Transylvania	"		1				1
Henderson	"		1				1
Alleghany	"		1				1
Wilkes	& Sprayer School		1				

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work ACP, ENG, EXT.195 1

Write in counties to be served for the month	Description of work to be done in counties	Days devoted to work by					Total Days to County
		ELLIS	FERGUSON	RITCHIE	WARRICK	COATES	
FEBRUARY 1951							
Catawba	Adult Tractor School						1
Ashe	" Test Farm	1					1
Wake	" "	1					1
Edgecombe	" "	1					1
Pender	" "	1					1
Granville	Farm Bldgs.		1				1
Caswell	" "		1				1
Ashe	Bldg. meeting		1				1
Nash	" "		1				1
Chowan	" "		1				1
Alaughaney	Housing "		1				2
Anson	" "		1				2
Stokes	" "		1				1
Alexander	" conference		1				1
Montgomery	Community bldg.		1				1
Alamance	Housing				1		1
Bertie	" "				1		1
Bladen	" "				1		1
Caldwell	" "				1		1
Currituck	" "				1		1
Durham	" "				1		1
Gates	" "				1		1
Halifax	" "				1		1
Haywood	" "				1		1
Jones	" "				1		1
Lenoir	" "				1		1
Pender	" "				1		1
Perquimans	" "				1		1
Stokes	" "				1		1
Catawba	Hay drying					1	1
Gaston	" "					1	1
Richmond	" "					1	1
Pasquotank	" Rural Elec.					1	1
Perquimans	" "					1	1
Edgecombe	F&H. Elec.					1	1
Lincoln	" "					1	1
Hoke	" "					1	1
Iredell	" "					1	1
Union	Elec. brooding					1	1
Rowan	" "					1	1
Pitt	" & potato curing					1	1

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work

AGR. ENG. EXT.

195 1

Write in counties to be served for the month	Description of work to be done in counties	Days devoted to work by					Total Days to County
		ELLIS	PERCUSON	RITCHIE	WARWICK	COATES	
MARCH 1951							
Transylvania	Water systems	1					1
Henderson	"	1					1
McDowell	"	1					1
Rowan	"	1					1
Buncombe	Drainage	1					1
Davie	"	1					1
Iredell	"	1					1
Forsyth	Irrigation	1					1
Duplin	Farm Bldgs.	1					1
Pitt	Tractor Schools - Adults		1				1
Jones	"		1				1
Martin	"		1				1
Bertie	"		1				1
Perquimans	"		1				1
Beaufort	"		1				1
Iredell	"		1				1
Cleveland	"		1				1
Guilford	"		1				1
Surry	"		1				1
Clay	"		1				1
Sampson	"		1				1
Montgomery	"		1				1
Union	"		1				1
Caldwell	"		1				1
Wake	"		2				2
Rockingham	" 4-H and		1				1
Pamlico	Dairy Barn Constr.			1			1
Rockingham	Housing meeting			1			1
Stanly	"			1			1
Bertie	"			1			1
Wayne	"			1			1
Wake	Community Bldg.			1			1
Yadkin	Tobacco Barns			1			1
Wake	"			1			1
Wilson	"			1			1
Sampson	"			1			1
Wayne	2			1			1
Wayne	"			1			1
Stokes	"			1			1
Alamance	Housing				1		1
Bertie	"				1		1
Bladen	"				1		1
Cleveland	"				1		1
Caldwell	"				1		1
Currituck	"				1		1

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work AGRICULTURAL ENGINEERING EXT. 195 1

Write in counties to be served for the month	Description of work to be done in counties	Days devoted to work by					Total Days to County
		ELLIS	FERGUSON	RITCHIE	WARRICK	COATES	
MARCH (CONTINUED)							
Chatham	Housing						2
Durham	"						1
Gates	"						1
Guilford	"						1
Jones	"						1
Lenoir	"						1
Perquimans	"						1
Hertie	Hay drying					1	1
Granville	"					1	1
Nash	"					1	1
Forsyth	"					1	1
Henderson	"					1	1
Martin	Elec. hotbeds					1	1
Wake	F&H Elec. Project					1	1
Lee	"					1	1
Montgomery	"					1	1
Moore	"					5	5
Graham	"					1	1
Polk	"					5	5
APRIL 1951							
Ashe	Drainage	1					1
Mitchell	"	1					1
Watauga	Water Systems	1					1
Avery	"	1					1
Rockingham	"	1					1
"	Terracing	1					1
Stokes	"	1					1
Anson	Irrigation	1					1
Warren	Farm Mch. Dem.		1				1
Lenoir	" " Field Day		2				2
Mecklenburg	Cotton Mechanization		1				1
Cleveland	" "		1				1
Franklin	Adult Tractor School		1				1
Edgecombe	" " " & Farm Mch.		3				3
Haywood	" " " "		1				1
Surry	" " " "		1				1
Rowan	Farm Bldgs.		1				1
Moore	"			1			1
Franklin	"			1			1
Beaufort	"			1			1
Union	"			1			1
Pender	"			1			1
Edgecombe	Community Bldgs.			1			1

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work AGR. ENG. EXTENSION

195

Write in counties to be served for the month	Description of work to be done in counties	Days devoted to work by					Total Days to County
		ELLIS	FERGUSON	RITCHIE	WARRICK	COATES	
APRIL (CONTINUED)							
Bladen	HOUSING						2
Cleveland	"						2
Bertie	"						1
Caldwell	"						1
Currituck	"						1
Duplin	"						1
Durham	"						1
Guilford	"						1
Pasquotank	"				1		1
Perquimans	"				1		1
Swain	"				1		1
Caswell	Hay drying					1	1
Cleveland	"					1	1
Mecklenburg	"					1	1
Buncombe	"					1	1
Madison	"					1	1
Warren	"					1	1
Wayne	Grain "					1	1
Person	F&H Elec.					1	1
Halifax	"					1	1
Anson	"					1	1
May 1951							
Buncombe	Irrigation	1					1
Polk	"	1					1
Cleveland	"	1					1
Sampson	Water Systems	1					1
Pasquotank	"	1					1
Caldwell	"	1					1
Alleghany	Drainage	1					1
Alamance	"	1					1
Pender	Farm Mch.		1				1
Ashe	" " Field Day		1				1
Mecklenburg	Cotton dusting equipment		1				1
Chowan	" gin inspection		1				1
	Anticipated county requests	10					10
Surry	Farm Bldgs.			1			1
Alexander	"			1			1
Forsyth	"			1			1
Warren	"			1			1
Edgecombe	"			1			1
Lee	"			1			1
Martin	"			1			1

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work AGRICULTURAL ENG. EXT. 1951

Write in counties to be served for the month	Description of work to be done in counties	Days devoted to work by					Total Days to County
		ELLIS	FERGUSON	RITCHIE	WARRICK	COATES	
MAY 1951							
Cleveland	Housing			2			2
Duplin	"			2			2
Bertie	"			1			1
Bladen	"			1			1
Buncombe	"			1			1
Caswell	"			1			1
Guilford	"			1			1
Hertford	"			1			1
Henderson	"			1			1
Pender	"			1			1
Swain	"			1			1
Johnston	F&H Elec.					1	1
Jackson	"					1	1
Macon	"					1	1
Swain	"					1	1
Beaufort	Small grain storage					1	1
Anson	Grain drying - crop processing					1	1
Robeson	" "					1	1
Scotland	" " - Hay drying					1	1
Rockingham	" "					1	1
Rowan	" "					1	1
JUNE 1951							
Cherokee	Drainage	1					1
Macon	Water Systems	1					1
Swain	"	1					1
Haywood	Irrigation	1					1
Union	"	1					1
Wake	"	1					1
Cleveland	"	1					1
Cherokee	Farm Mch. Field Day		2				2
Lenoir	Anticipated county requests		10				10
Bladen	4-H camp			2			2
Watauga	Farm Bldgs.			1			1
Rockingham	"			1			1
Cleveland	"			1			1
Haywood	"			1			1
"	Housing			1			1
Avery	"				1		1
Bertie	"				1		1
Buncombe	"				1		1
Cleveland	"				1		1
Guilford	"				1		1
Harnett	"				1		1
Henderson	"				1		1
Swain	"				2		2

AGE. ENG. EXT.

1

		ELLIS	FERGUSON	HITCHIE	WARRICK	COATES	Total days in county
JUNE 1951 (continued)							
Haywood	Hay drying					1	1
Alamance	" "					1	1
Wilkes	" "					1	1
Burke	" "					1	1
Sampson	" " & grain drying					1	1
Johnston	Potato curing					1	1
Hertford	" "					1	1
JULY 1951							
Granville	Terracing	1					1
Northampton	"	1					1
Polk	Water systems	1					1
New Hanover	" "	1					1
Yancey	" "	1					1
Hertford	Farm Ponds	1					1
Cleveland	Cotton gin school		2				2
Davidson	Adult & 4-H Tractor school		2				2
Forsyth	F. Mch. field day		2				2
Northampton	" " School		2				2
Wilson	Cotton gin inspection		2				2
Wake	Farm bldgs.			1			1
Northampton	"			1			1
Durham	"			1			1
Richmond	"			1			1
Scotland	"			1			1
Robeson	"			1			1
Columbus	"			1			1
Puncombe	Housing			2			2
Avery	"			1			1
Harnett	"			1			1
Hertford	"			1			1
Henderson	"			1			1
Swain	"			1			1
Wilkes	"			1			1
Caswell	Potato curing			1			1
Beaufort	" & grain drying			1			1
Wake	Hay drying			1			1
Tyrrell	"			1			1
Northampton	Crop processing			1			1
AUGUST 1951							
Currituck	Farm Bldgs.	1					1
Alexander	Gen. Farm Sanitation	1					1
Iredell	Water Systems	1					1
Rutherford	"	1					1
Gaston	Terracing	1					1
Stanly	Irrigation	1					1

AGR. ENG. EXT

1

AUGUST 1951 (Continued)

	ELLIS	FERGUSON	HITCHIE	WARRICK	COATES	Total days in County
Henderson Farm Mch. field day	2	2				2
Anson Cotton gin inspection	2	2				2
Sampson "	1	1				1
Wilson "						1
Randolph Farm Bldgs.			2			1
Guilford " " "		1	1			1
Davidson " " "		1	1			1
Davie " " "		1	1			1
McDowell " " "		1	1			1
Burke " " "		1	1			1
Caldwell " " "		1	1			1
Avery Housing			1			1
Buncombe " "			1			1
Harnett " "			1			1
Hertford " "			1			1
Robeson " "			1			1
Henderson " "			2			2
Wilkes " "			2			2
Weke F&H Elec.					1	1
Martin " " - Potato curing					1	1
Vance " " "					1	1
Richmond " " "					1	1
Hyde Grain drying					1	1
Pamlico " " "					1	1
Harnett " " demonstration					1	1
Anson " " & crop processing					1	1
Pasquotank " storage losses meeting					1	1
<u>SEPTEMBER 1951</u>						
Wilkes Gen. Farm Sanitation	1					1
Pender Water systems	1					1
Wilson " "	1					1
Bladen " "	1					1
Robeson " "	1					1
Columbus Farm Bldgs.	1					1
Cleveland " Mch. field day		2				2
Anticipated county requests		8				8
Hyde Farm Bldgs.			1			1
Gates " "			1			1
Tyrrell " "			1			1
Edgecombe " "			1			1
Cleveland " "			1			1
Orange " "			1			1
Nash Housing			1			1
New Hanover " "			1			1
Pender " "			1			1

AGR. ENG. EXT.

1

SEPTEMBER 1951 (continued)

		ELLIS	FERGUSON	KITCHIE	WARRICK	COATES	Total days in county
Henderson	Housing				2	2	
Wilkes	"				2	2	
Robeson	"				1	1	
Avery	"				1	1	
Craven	"				1	1	
Harnett	"				1	1	
Hertford	Potato curing				1	1	
Durham	"				1	1	
Cabarrus	"				1	1	
Cleveland	"				1	1	
Greene	"				1	1	
Wayne	"				1	1	
Bladen	"				1	1	
Duplin	"				1	1	
Hoke	"				1	1	
Craven	"				1	1	

Alamance	"				1	1	
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OCTOBER 1951

Bertie	Drainage	1				1	
Martin	"	1				1	
Washington	"	1				1	
Dare	Water Systems	1				1	
Beaufort	"	1				1	
Craven	"	1				1	
Carteret	"	1				1	
New Hanover	Adult Tractor Schools		1			1	
Forsyth	County fair - Farm Mch.		2			2	
	Anticipated county requests		7			7	
Halifax	Housing			1		1	
Alamance	"			1		1	
Caldwell	"			1		1	
Pitt	Farm bldgs.			1		1	
Duplin	"			1		1	
Onslow	Fair exhibit			1		1	
Craven	Housing			1		1	
Wilkes	"				2	2	
Hertford	"				2	2	
Robeson	"				1	1	
Franklin	Potato curing				1	1	
Anson	"					1	
Cumberland	"					1	
Forsyth	Grain drying					1	
Wayne	"					1	
Wilson	"					1	
Davidson	F&H Elec.					1	

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work

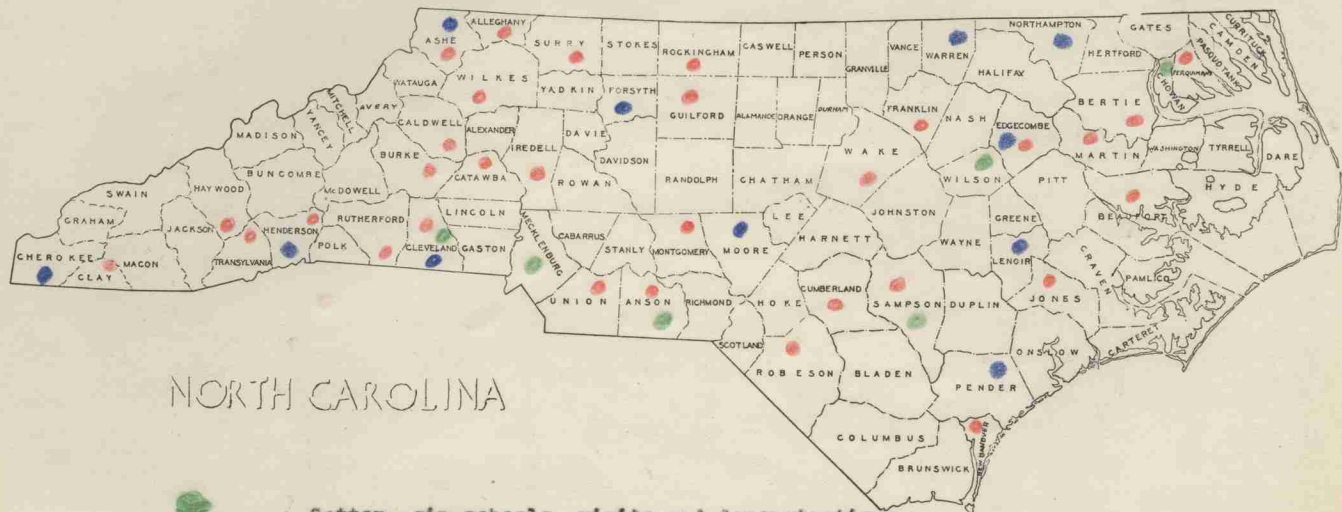
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COUNTIES IN WHICH MAJOR ACTIVITIES ARE PLANNED
FOR 1951



NORTH CAROLINA



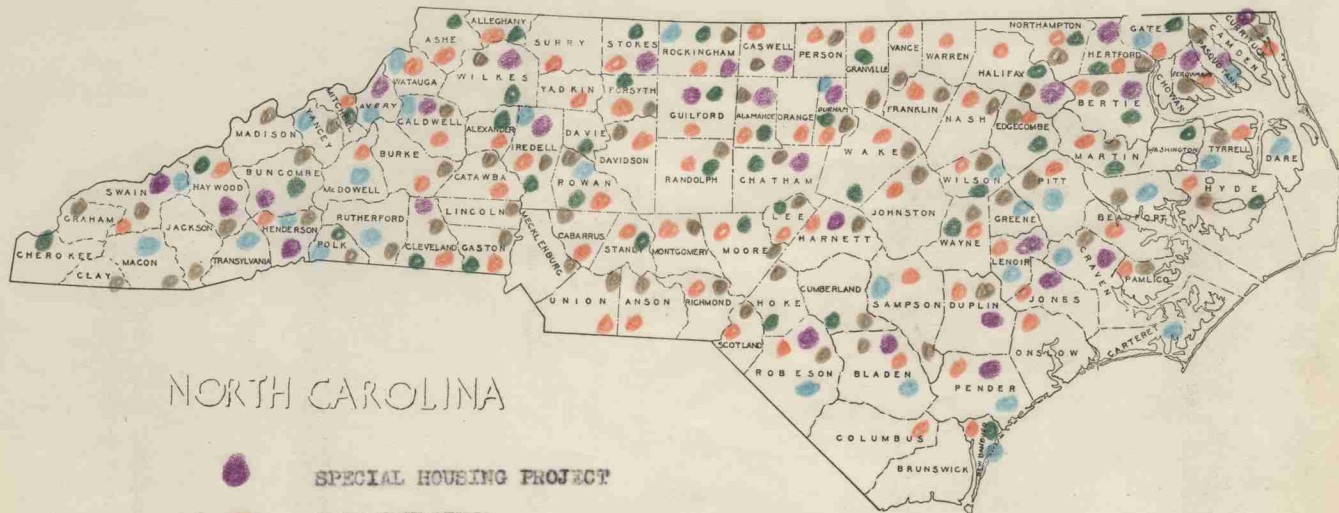
Cotton, gin schools, visits and demonstrations

Tractor schools

Farm machinery schools and demonstrations

Note: A dot may represent several visits.

COUNTIES IN WHICH MAJOR ACTIVITIES ARE PLANNED FOR 1951



NORTH CAROLINA

- SPECIAL HOUSING PROJECT
- FARM BUILDINGS
- CROP PROCESSING AND RURAL ELECTRIFICATION
- LAND IMPROVEMENT
- WATER SYSTEMS

NOTE: A dot may represent several visits.

*Stick inside office copy
of 1951 Plan for work*

STATEMENT OF THE SITUATION AND PROBLEMS AFFECTING NORTH CAROLINA
FARMS, HOMES AND COMMUNITIES IN 1951

The primary objective of the Agricultural Extension Service is to help farm families develop a pattern of farming and homemaking which through proper and full use of their land, labor and other resources will result in higher economic returns from farming and thereby make more income available to the farm family for better living.

In North Carolina the two major problems which have limited progress toward better living are the lack of income and use of income. For some families the lack of income can be traced to limited resources, but for the majority it is the failure to take full advantage of their opportunities in making best use of their resources. For other families the way in which income is used, rather than the lack of it, seems to be the determining factor in their not having and doing many of the things which would make for better family and community living.

With a large part of the world population earnestly striving for World Peace while others seem to be interested in aggression, the problems in connection with farming and homemaking will be increased in number and intensity. The economic situation ahead is filled with strong inflationary trends. This is explained by the fact that in addition to the financial aid which has been pledged by our government to many other nations, the cost of expanding our armed forces and the rearmament program as well as supplying increased amounts of goods and services to the people who may be liberated through our efforts, will be extremely high. The expanding population in this Country together with the per capita level of demand will also require additional foods, fibers, goods and services.

Present and prospective price and cost relationships would indicate that flue cured and burley tobacco should be planted in line with acreage allotment, and that those farmers who can obtain near or above average yields of cotton should expand in line with good farm management practices and labor resources.

Prices for livestock and livestock products also appear to be favorable. As a matter of fact, North Carolina farmers could materially increase their net farm income by adding beef cattle and/or sheep on land not needed for tobacco, peanuts, cotton and other special crops. Likewise the demand for pork will support increased production of swine. This, of course, would involve increased production of grains and forage crops to supply the livestock and poultry needs.

While the outlook for most crops, with the exception of Irish and sweet potatoes, and for poultry, with the exception of commercial eggs, appears favorable, farmers will find labor, fertilizer, seeds, machinery, equipment, insecticides and other necessary production supplies high in cost and at times difficult to obtain.

Fifty percent of the total farm acreage in North Carolina is in woodland. and while the outlook for both demand and price for forest products is favorable, there are many glaring deficiencies in the management of this part of the farm from the standpoint of obtaining the maximum economic and other beneficial returns. Farm forests supply a large amount of material needed each year in farming operations and they also perform such valuable functions as preventing erosion, equalizing stream flow and providing food and shelter for wildlife. Poor management, however, has resulted in the average farm woodland acre being depleted to the point where it is producing about one-third of its maximum capacity. Some progress, however, has been made to improve this situation because there is more interest in planting forest trees, in scientific cutting methods and in businesslike marketing of standing timber than has been noticed in past years.

To increase the efficiency in production and operation of many farms will call for better balance between crops and livestock, further mechanization, better farm drainage, application of the latest approved practices in crop production, crop drying, soil building and conservation. This is emphasized by the fact that the economic loss through crop disease is approximately \$70,000,000 annually, and the

loss from insects is perhaps even greater. While control treatments and practices are readily available for a number of these disease and insect problems, many farmers are not yet following them. This problem is intensified by the fact that as changes in farming systems occur, new disease and insect problems will also arise.

It is significant to note that plant diseases and insects are one of the greatest handicaps to home gardening and ⁱⁿ some areas this problem seriously affects the diet of farm families.

All of the above mentioned situations and problems will have a direct bearing on both the gross and net farm income on the individual farms throughout the State during 1951. A closely related problem is how to best use the income available for family living, after all production and operating expenses have been paid. This is paramounted by the increased costs of those commodities and services which are desired and needed to improve family living.

Since the last war many farm and rural families have been spending a high percentage of the net farm income for food, most of which they could have produced. This may account in part for the fact that per capita consumption of milk and meat in North Carolina is below the need for good nutrition. It may also partially explain why so many homes are in need of major repair and why such a small percentage of them have running water, inside toilets and baths. No doubt, it likewise has a bearing on the fact that many families do not have the proper clothing for comfort and health, and adequate medical care.

These facts emphasize not only the importance of having sufficient income to provide for better family living, but also the need for better planning as to the use of income in relation to what the family has, what they want, what they need and what they can afford. These conditions, no doubt, have contributed to the many broken homes, juvenile delinquency and migration of a large number of farm people to the urban areas. It is essential, therefore, that parents and youth be taught the causes of their problems and given guidance in their solution. In this changing

world it is not enough that the more than 500,000 farm boys and girls be given information and training in better practices in agriculture and homemaking. The training must also provide for the production of economic wealth, health improvement, better citizenship, cooperation and recreation, if they are to make the adjustments needed to provide a satisfying rural life and actually learn the Art of Living.

Even though the present situation and outlook for 1951 seems rather complex and confused, there are some things which are encouraging. A large number of new farm homes have been built in recent years and others remodeled. The use of better seed, livestock and the adoption of recommended production practices are on the increase. Many home conveniences have recently been added and the people are demanding the latest research information which has a bearing on their production and home-making problems.

It was pointed out earlier that the lack of income in many instances can be attributed to the failure of some families to take full advantage of their opportunities. These opportunities, of course, can be recognized only through careful study of the needs and possibilities and will involve careful planning throughout the State, Counties and Communities and on the individual farms. It will require the combined judgment, best thinking and cooperative effort of Extension Workers and farm people in first determining what each farm family can do and then provide them with the necessary information for making desirable changes and adjustments in their farming and homemaking.

Nov. 4, 1950

MEMO TO F.S. BLOAN (From Agricultural Engineering Ext.)

(A brief statement of some of our thoughts regarding the present situation which should govern Ext. workers' plans in the field of Agr. Engineering.)

FARM MACHINERY : The mechanization of North Carolina farming should continue at a rapid rate. -- General care, operation and maintenance of power machinery should be stressed. -- Power should be in keeping with farm requirements.

FARM BUILDINGS : Construction costs are rising; certain building materials are gradually becoming more difficult to find. -- We should not be too promotional minded in this phase of work, but should not show a discouraging attitude to those that are in position to go ahead with a building project. If we ask them to wait, what are we asking them to wait for? -- Before construction is begun, scarce articles should be on hand, or certainly within sight.

DRAINAGE : Farm Mechanization requires fair uniformity of land drainage. The over-all extension program has been (and must remain) geared toward more efficient production. The drainage program for 1951 is as timely as it has ever been at any time.

IRRIGATION : Possibilities are good. Continue to work toward good demonstrations. Industry will promote it as fast as we care for it to go.

SOIL CONSERVATION : The surface has barely been scratched. We should remember THAT OUR RESPONSIBILITY IS THE EDUCATIONAL PHASE, and plan accordingly.

CROP DRYING : Crop drying is rapidly becoming a MUST with North Carolina farmers. Many of our farmers are confronted each year with the serious problem of storing, or marketing moist grain. Where practical, farmers should be encouraged to equip themselves for drying their grain and hay crops.

WATER SYSTEMS : Running water in the kitchen of our rural homes has lagged behind our electrification program at an alarming rate. People buy what they wish to buy. Until we have made them want running water, we have not done our work well. This is an item where improvement is practical for the very poorest.

RURAL TELEPHONES : In our changing world telephones are becoming more necessary every day. From selling a hog to summoning a doctor for a sick baby, a telephone is almost indispensable. Rural telephones ~~will~~ will work magic changes in our rural social and economic structure.

H. M. Ellis, in Charge
Agricultural Engineering Extension

