

NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE

AGRICULTURAL ENGINEERING PLAN OF WORK
(Name of project)

for

Calendar Year 1956

Major phases of project or subdivisions of project covered	Name of Worker*	Percentage of time devoted to entire project by each worker
Farm Drainage, Irrigation, Soil Conservation		
Water Systems		
Farm Fencing	H. M. Ellis	100%
Rural Electrification		
Crop Processing	E. S. Coates	100%
Farm Machinery, Cotton Gins	J. C. Ferguson	100%
Farm Machinery	J. W. Glover	100%
Farm Buildings, Plan Service	R. M. Ritchie, Jr.	100%
Farm Housing	W. G. Warrick	100%

Date submitted: December 23, 1955. Signed: H. M. Ellis
Project Leader

Date approved: _____, 195 . Signed: _____
State Director of Extension

Date approved: _____, 195 . Signed: _____
Administrator, Federal Extension
Work, U. S. Department of Agriculture

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

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1956

PLAN OF WORK FOR THE DEPARTMENT OF EXTENSION

AGRICULTURAL ENGINEERING

A BRIEF STATEMENT REGARDING THE PRESENT SITUATION WHICH WAS TAKEN INTO CONSIDERATION BY EXTENSION SPECIALISTS IN THE DEPARTMENT OF AGRICULTURAL ENGINEERING IN PREPARING THEIR PLAN OF WORK FOR THE COMING YEAR.

For a great many North Carolina farmers, 1955 will certainly be remembered as an uncertain year. Following four extremely dry years, we had a near perfect year from the standpoint of rainfall until mid-August. As might be expected, the rains very drastically affected the planned irrigation program. Then the state was visited by three hurricanes in quick succession, which destroyed a lot of crops and put a lot of corn on the ground, which tremendously aggravated the situation of wet grain and gave stimulus to the crop processing phase of the Agricultural Engineering Extension program. As might be expected, these hurricanes also directed considerable attention to the construction of our buildings. Now, as our farmers face another year with the cost-price relationship still extremely close, with further reduction in acreage of cash producing crops, a great challenge meets each specialist in preparing his plan of work.

FARM MACHINERY: In the production of crops growing in North Carolina, labor costs have gone up more than any other item. This one fact necessarily points to more complete mechanization. This makes it necessary to review the critical problems associated with the transition toward mechanization.

Maximum use of appropriate combinations of both equipment and crops along with maintenance, operation costs, and timeliness of operation are all major considerations which must be faced by the individual farmers. Engineering knowledge applied to these situations can aid in the solution of problems

and consequently reduce the hazards commonly associated with mechanized farming.

To meet the increased demand from farmers through agents for assistance, an additional farm machinery specialist has been added to the staff which will make it possible for us to meet a greater number of requests for a stepped-up educational program.

FARM BUILDINGS: The demand for more efficient farm buildings both from the standpoint of use of materials and labor saving operations is continually increasing. Increased labor costs demand labor saving building designs. High costs of materials and labor demand simplified construction. More consideration to overhead cost of production is swinging into a trend toward pole type constructed barns.

Farm people are demanding better homes in which to live; and the remodeling of farm homes and addition of modern appliances and equipment continue to make these homes more livable.

IRRIGATION: Adequate rains throughout most of the state last year have naturally dampened farmers' enthusiasm for irrigation for the immediate future. At this time there is a marked decline in requests for assistance with irrigation. This makes it more necessary to meet the situation with an educational program that will cause farmers to know that expensive irrigation equipment cannot be purchased for the saving of one crop, but that irrigation should be given its rightful place as another improved practice with a knowledge that there will be dry years in the future. Major emphasis will be directed toward an educational program for the distributors and dealers of equipment during the coming year.

DRAINAGE: Interest in drainage, particularly throughout eastern North Carolina, is greater than it has been in years. This is to be expected because of the water damage experienced in 1955. Interest in low

land drainage made possible by pumping is increasing, and demonstrations of this will be set up during the coming year.

CROP PROCESSING: In this phase of work, as might be expected, emphasis will be placed on the quality of products. In fact, this is one partial answer to overproduction. Quality is directly related to harvesting, handling, and storage. The heavy loss experienced because of wet grain during the past year will cause farmers to be more conscious of the need for crop driers. Surpluses in certain crops have stepped up the need for properly designed storage facilities, which will permit orderly marketing.

RURAL ELECTRIFICATION: This phase of the program is being expanded by a closer relationship with industry. Greater efficiency in farming stimulates selection and use of productive electrical equipment.

YOUTH PROBLEMS: With new developments taking place so rapidly and with full realization that our present rural youth will be taking over the farms in the immediate future, we must keep them well informed as to how best to use new equipment for greater efficiencies and a higher level of living.

OTHER PHASES: A large number of additional subjects will be worked on during 1956. There was a marked increase in requests from agents for fence construction demonstrations. Considerable specialist time will be devoted to assisting with county programs on home water and sewage disposal systems. A number of home demonstration agents will be assisted in training local people to test pressure canners and cookers. Each year the demand is greater for assistance with safety programs, and there is more than justification for a full time specialist in this field alone.

FARM MACHINERY

1. ANALYSIS OF PROJECT SITUATION:

Competition for farm labor along with speed of operation and convenience have accelerated mechanization more than any other factors. The application of power machinery ^{no doubt} has contributed more toward the improvement of southern agriculture, possibly, than any other single contributing influence. Tractor and equipment populations continue to increase, but at a slower rate than in previous years. There exists a rather direct relationship in trends of mechanization to farm income; when farm income is high, more money is invested in machinery; but as net farm income decreases, farmers are similarly influenced in their purchases of machinery. Net income for 1955 will be reflected in many aspects for 1956. Indications are that machinery purchases will be limited to essential replacements and only new tractors and equipment that are soundly justified as an additional farm cost. For these ^{and other} reasons a relatively high percentage of tractors and machinery will be overhauled or made to operate ^{as expected} another season that otherwise would likely be replaced. ^{replaced with available used equipment}

Good care and maintenance of power machinery is always profitable, but the shortage of farm operating capital in 1956 makes it even more ^{imperative} essential that a good program of maintenance and full utilization be practiced.

2. MAJOR PROBLEMS:

1. Lack of skills and appreciation of first echelon maintenance.
2. Failure to realize the potential applications of power machinery.
3. Improper adjustment of machinery, resulting in poor or mediocre performance and the requirement of supplementary hand operations.
4. Misjudgment in purchase of equipment to best fit a particular farming situation.

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5. Overinvestment in power machinery, placing an economic burden on productivity of the land and on management.
 6. Lack of managerial ability to best utilize power machinery and adapt it to most profitable use.
 7. Small fields that could be enlarged by eliminating open ditches and terraces where possible, along with other obstacles, would make possible the more efficient use of power machinery.
 8. The adoption of uniform row spacing for all crops would materially reduce machinery set up time, particularly in regard to planting and cultivating operations.
 9. Failure to follow specifically recommended cultural practices regarding fertilizer placement, soil fumigation, application of insecticides, herbicides, etc.
 10. Maintaining both power machinery and workstock on some farms that could be operated more efficiently with either mechanical or workstock power alone.

3. WORK TO BE DONE AND METHODS OF PROCEDURE:

Community or County-wide Training Schools on Tractor and Farm Equipment Utilization, Service, and Maintenance

Such training schools are to deal primarily with operation, application, care, and maintenance, better acquainting farmers with the importance of systematic preventative maintenance, mechanical adjustment, and the most efficient use and adaptations of power equipment. The L-H Tractor Maintenance Project is similar in scope but conducted as a separate activity.

Farm Machinery Field Days and Demonstrations

Field demonstrations afford an excellent opportunity to bring before the farmer newly developed items of machinery and new applications of existing

machines as applied to specific crops and associated cultural practices. Such demonstrations may be conducted on community or county level.

Farm machinery field days normally attract farmers of diversified interests in that many different phases of crop production may be covered in a single program. Farm machinery is in most instances a major item of interest at field days held annually on the several Research Farms located throughout the state. Farm machinery dealers are always good cooperators in field day programs which afford them excellent opportunity to present their products to large groups of potential farmer customers.

4-H Tractor Operator and Plowing Contests, etc., fall into the category of field demonstrations in that they normally involve county-wide interest.

Special Training Schools

Since more adequate facilities are available on the College campus for specialized training, many groups of county agents, local leaders, industry representatives, and others are brought in to the campus annually for special instruction. Other specialized schools are held throughout the state each year as justified by requests, some of which may deal primarily with a single subject but more often involving several, of which machinery may be a vital segment. Many demonstrations and training schools are jointly conducted with other Extension specialists involving agronomy, horticulture, entomology, and others.

Cotton Harvesting and Ginning

The use of mechanical cotton harvesters in North Carolina has been erratic from year to year because of weather conditions, late growths of weeds and grass, limited acreage, labor supply, grade loss, and many other influencing factors; however, leading farmers and ginners still consider mechanical harvesting practical and economical on many cotton farms.

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Field demonstrations of more adequate control of late growth of weeds and grass along with better operating techniques in regard to harvesting equipment can reduce cotton production costs.

Ginning facilities have been substantially improved throughout the state in recent years, and ginners are conscientiously trying to produce the best possible samples for their farmer customers; however, continued efforts in training of cotton gin operators through area schools is necessary to maintain the high standards of operation now generally prevalent.

4. RESULTS EXPECTED AND METHODS OF MEASURING:

Through an extension program on farm mechanization many of the results are intangible in that mechanization is only a means toward more efficient production of crops and livestock and contributes to farmers' income through a somewhat indirect process. However, substantial savings and increased production are possible by means of intelligent application of power machinery.

Machinery is expensive and a major cost item on all farms; therefore machinery conservation and comprehensive utilization of power is of utmost importance to the modern farmer.

Many farmers fail to recognize the potential service built into machinery if properly used and maintained. This, of course, is a major objective of farm machinery Extension work. New machines to further reduce hand labor requirements are continually being introduced; and as a further function of Extension, it is important that such equipment be readily accepted, correctly and fully utilized in maintaining or increasing net income and hourly productivity of labor.

The 4-H Tractor and Machinery Project is gaining in popularity and is an outstanding contribution in the field of rural youth training in farm mechanization. It is anticipated that more than 2,000 4-H members will participate in this project in 1956.

5. PROJECTED PROGRAM NEEDS

With the diversified nature of agriculture in North Carolina, mechanization has many applications. Due to the multiplicity of possible Extension activities in farm mechanization, only a limited scope has thus far been undertaken; however, with additional personnel assigned to this work, expansion is anticipated which may include:

1. More intensive work on the 4-H Program.
2. Better coverage with tractor and machinery maintenance schools.
3. Assist more county agents with field day activities, and special problems.
4. Cooperate more fully with other specialists in projects where farm machinery is involved.
5. Visit more farm equipment dealers soliciting cooperation in Extension educational activities.
6. Do more follow-up work with county agents, other cooperating agencies, and farmers.

FARM STRUCTURES

Housing

1. ANALYSIS OF PROJECT SITUATION:

The true picture of farm housing in North Carolina cannot be presented in terms of census statistics. Available figures, while out of date, indicate that most farm homes are lacking in desirable features, such as water systems, bathrooms, central heat. New homes are being built at a relatively rapid rate, and generally these new homes include most, if not all, features considered desirable. However, the number of families building new homes is not a large percentage of the total farm families, and the average, or typical, North Carolina farm family is still living in a substandard home.

The typical farm home would perhaps be twenty-five to fifty years old, and poorly built to start with. Families living in these homes, even when they have a strong desire for a better home and are able to afford it, are faced with the problem of how to make the best use of the old house. A portion of these houses could be made adequate by remodeling in a practical way, but most families do not consider all factors involved before spending money on remodeling. After spending a substantial sum of money for one phase of remodeling, such as installing running water and bath, it becomes even more difficult to give up the old house and build a new one even though that may have been the most practical approach in the beginning.

Making decisions of this type has always been one of the most difficult aspects of farm housing, and a great deal of effort has been devoted to trying to help people make these decisions. With the beginning of Farm and Home Development work, agents are having more opportunities to discuss these problems with families, resulting in more requests for assistance in making decisions.

2. MAJOR PROBLEMS:

- 1. Lack of desire for better homes by some families.
- 2. Lack of income to afford better homes.
- 3. Some families are unwilling to spend money from farm business for farm homes.
- 4. Many families are unwilling to borrow money to build homes, since it usually means a mortgage on the entire farm.
- 5. Some families would have time to contribute their own labor to house building, but lack training.
- 6. Many agents feel that they need more training before they can do an adequate job in housing.
- 7. Practically all families need outside help in planning. They are not well trained themselves, many agents lack training, and sufficient specialist help is not available to give individual assistance to all families.

3. WORK TO BE DONE AND METHODS OF PROCEDURE:

Result Demonstration Housing: The result demonstration housing program will continue to receive major emphasis. This program has proved popular with the agents, and most agents who complete one demonstration house have requested more. Because the number of requests for these demonstrations has grown larger than can be handled, the specialist will have more opportunity to select for families who will make the most effective demonstrators. It is felt that a smaller number of good demonstrations will be more effective than a large number inadequately supervised. There is a tendency for the agents to select above average income families for these demonstrations, because they are easier to work with and will build more adequate homes, but an effort will be made to select a representative number of average and below average income

families, since these families are more in need of help in housing, even though the solution of their problems may be more difficult.

These projects will be conducted in cooperation with House Furnishings specialists and appropriate commercial interests. Within a county, cooperation of both farm and home agents on these projects is expected in order to assure a unified approach.

Meetings, Schools, etc.: The number of group meetings requested this year is smaller than in previous years. It is uncertain whether this is the result of emphasis on result demonstrations and the "unit approach", or lack of promotion of meetings on the part of specialists, or both. Seventeen agents have requested assistance in conducting meetings or schools. The term "school" usually means a one or two day program involving two or more specialists. These meetings and schools will be conducted in cooperation with House Furnishings specialists where appropriate. Subjects covered at various meetings will include planning new homes, planning remodeling, heating, bathrooms, etc.

Assistance with Individual Problems: Specialists will continue to assist agents by visiting individual families on special problems where possible. This activity serves to train agents and keep specialists well informed as well as to assist the families involved. The expansion of Farm and Home Development work will almost automatically mean an increased demand for this type of assistance.

Teaching Aids: Teaching materials will be developed primarily through the result demonstration housing project. These will include slides, cost data, house plans, and general planning information for use by specialists and agents. For each completed demonstration a leaflet will be printed and distributed to all agents, giving information on the house. When new plans are

developed in connection with these projects, they will be screened; and those which appear to fill a need for the plan service will be printed and added to the plan books.

Plan Service: Specialists will continue to keep agents' plan books up to date by furnishing new or revised plans when available and notifying them when to remove obsolete plans from the book. Time will be set aside during the year to visit each agent's office and check over their plan books to make sure they are complete and up to date. These books were issued approximately two years ago, and it is felt that a number of the agents have not kept them completely up to date. These visits will serve to get all the plan books in order, as well as give the specialists an opportunity to see how well this system of plan distribution is working.

h. RESULTS EXPECTED AND METHODS OF MEASURING:

Plans are being made to send out a questionnaire to agents during the year to determine how much time they spend on various phases of housing work, what results they can measure, and what changes they would suggest in the approach to housing problems. Answers to these questions will help in planning future programs.

Records will be kept of the house plans distributed so that assistance given by this method may be compared with other years.

Farm Service Buildings

1. ANALYSIS OF PROJECT SITUATION:

Farm buildings in North Carolina are lagging behind other phases of agricultural production in their adaptation to labor saving methods and equipment. Shortage of labor has brought about progress in the mechanization of most field operations, including even some progress in the production of tobacco, the state's major crop and most difficult to mechanize; but buildings have not ^{work in and around} kept pace. *farm buildings in common often performed by hand, shovel or pitchfork.* This is no doubt partly because many of the buildings in use are well past the retirement age, and partly because information has not been made available to help farmers in designing more efficient new buildings. Farmers have added various labor saving gadgets to their buildings on a piecemeal basis, but what they need is buildings with an overall design to integrate all labor saving equipment and methods for more efficient production.

North Carolina farmers are still seeking to increase their income by adding new livestock, dairy, and poultry enterprises where markets are available. With less favorable economic conditions in prospect, the ^{total of annual overhead cost} cost of buildings may be a major obstacle to the addition of a new enterprise. For these farmers, building designs should be made available which will be as economical as possible consistent with a sound management approach.

The situation regarding tobacco barns, North Carolina's major farm building, will be very different in 1956 from 1955. Last year, a large number of barns were built to replace those destroyed by Hurricane Hazel. Because of a sharp acreage reduction, few tobacco barns will be built in 1956, and it does not appear to be a year which will offer many opportunities for improving construction on these buildings.

The trend in feeding dairy and beef cattle is more and more toward a heavy reliance on silage, both as a winter feed and for feeding during dry periods: in

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summer. Many more silos will be built in 1956. There appears to be a definite trend from upright silos toward the horizontal types. This is partly because of lower cost and partly because of the possibility of using various labor saving methods in horizontal silos.

Among the animal enterprises, dairy farms appear to be the most in need of a unified approach to the planning of buildings. Most North Carolina dairies have developed one step at a time, starting with one or more old buildings not originally designed for a dairy operation. A good many dairy farmers have arrived at the point where they need to take a fresh look at their overall needs and make long range plans for a building program.

Country industry is spreading rapidly, and new buildings are not a symptom of the need for

A great deal of extra labor is consumed in the handling, processing, and feeding of grains which are grown on North Carolina farms and fed to livestock on the farm. A coordinated approach is needed to the design of buildings and equipment which will reduce labor required in this phase of farm operations.

A farm service buildings plan book, distributed last year, has been a great help to the agents in promoting more general use of plans from the plan service. This office will have a continuing responsibility to keep this book up to date by the addition of new or revised plans as they are available.

2. MAJOR PROBLEMS:

1. The need for more research data on which to base building designs for this region.
2. *Farmer don't appreciate the need for and possibility of increasing*
The need for closer cooperation between Extension workers and dealers and builders.
3. Information on buildings needs to be presented in a form more readily understood and accepted by farmers and builders.
4. More time should be spent on plan service to keep plans up to date in technical details and readability.

5. Many agents feel they need more training in order to advise on building problems.

3. WORK TO BE DONE AND METHODS OF PROCEDURE:

1. Start Pole Barn Clinic
2. Work with Pole Barn Clinics

This activity will be given major emphasis in 1956. This is the first year that a meeting under this title has been offered. It was felt that an activity of this type was needed because of the wide interest in construction of pole frame buildings and the fact that so many of these buildings are poorly constructed. Farmers have accepted the catch-word, "Pole Barn," but in many cases they have not followed through to learn the principles of good pole frame construction before erecting buildings. Also, information from several sources indicates that local builders and dealers have a greater influence on the design of farm buildings than Extension workers. Efforts to bring in builders and dealers on Extension meetings in order that they might become familiar with recommendations have not generally been successful in the past. It is hoped that through proper planning and publicity these meetings will be a step in the direction of better cooperation between these groups. Agents are being encouraged to make a special effort to get these people to attend these meetings. The widespread publicity already given pole barns by commercial agencies should also help to stimulate interest.

The "Pole Barn Clinic" will be in two parts. The first phase is a travelling exhibit which will consist of model buildings, building materials, construction charts, and building plans. This exhibit will be set up at a convenient location, and a specialist will be on hand to talk with interested people. The second phase will be a meeting, afternoon or night, which may or may not be at the same location used for the exhibit. At this meeting a pole barn movie will be shown; and models, charts, plans, slides, and sample building materials will be used to discuss design and construction of pole buildings. These meetings are planned for thirty counties.

Silo Demonstrations and Meetings: Eighteen counties have requested assistance in work on silo construction. Some of this work will be done by indoor meetings, some by field demonstrations, and some by visits to individual farms. Interest in horizontal type silos is increasing, and it is anticipated that most of the field demonstrations will be on construction of trench and bunker type silos. Thousands of temporary trench silos have been dug in the past few years, and there is a need for demonstrating practical methods of installing linings in these if they are to be made permanent. The bunker silo is relatively new, but it will fit particularly well in the eastern part of the state, where good trench silo sites are scarce. Interest in this type is increasing, and assistance will be given in constructing demonstration bunker silos where requested, using various materials.

X Plan Service: Work will be done with other departments in designing new building plans as needed, and in revising existing plans to bring them up to date. Plans are being made in cooperation with the Horticulture Department to print and distribute plans to promote the use of the low cost plastic greenhouses developed by the University of Kentucky. The Horticulture Department has also requested assistance in developing plans for small to medium size apple storage houses to meet the needs of North Carolina growers, and work on this project will be pursued.

The Dairy Department has requested help in revising plans for pens for raising calves.

Specialists will attempt to visit every county in the state during the year in order to check the plan books in agents' offices and bring them up to date. This book is in loose leaf form, and agents have been mailed new plans as they were printed, and have been requested to add these plans to the book. Also they have been requested not to allow individuals to remove plans from

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the book but to order plans for individuals from the College. However, it is feared that not all agents have followed this procedure exactly, and the purpose of this visit will be to see how well the plan books are being kept up to date and to carry along a supply of extra plans so that any missing plans may be inserted, as well as out of date plans removed from the books. This activity will serve to give the specialists a chance to appraise how well this system of distributing plans is working.

State Farm Buildings Conference: Preliminary work has been done on planning for a one or two day meeting on the campus for farm builders, building materials dealers, manufacturers representatives, and agricultural workers. This would be another step in striving for a more coordinated approach to farm buildings' problems by these workers, and it is felt that such an effort is definitely needed. It is anticipated that the first conference may not be scheduled before 1957, but a good deal of planning will be required during 1956 to make this meeting a success.

Program on buildings for

Processing and Storage Facilities for Grain

feed on farm

The need for a coordinated approach to the problems of handling, storing, processing, and feeding grain on the farm has been felt for some years. Some work in the field will be done in 1956, as outlined under Crop Processing. Specialists will work during 1956 on developing recommendations, building plans, and teaching aids which may be used for a more intensive program in this field in later years.

General Meetings, etc: Counties will be visited as requested to assist with meetings, hold conferences with agents, and visit individual farms on special problems. The Farm and Home Development program will bring an increased demand for individual help in planning, and these requests will be filled wherever possible.

Publication "Pole Barn Const."

The increased use of television by agents and specialists has created a demand for more visual materials for use in programs. Farm buildings is a natural field for the use of models, and several have been built for use by specialists and agents. More of them will be built during 1956 in order to make available a more complete selection of models of various farm structures.

4. RESULTS EXPECTED AND METHODS OF MEASURING:

Evaluation of results will necessarily be largely by general observation rather than by any accurate method of measurement. It is hoped that through the "Pole Barn Clinics" the department may begin to build up a contact list of rural builders and those interested in building which will be valuable in later programs such as the Farm Buildings Conference being planned, and in distributing information aimed at this particular group. The effectiveness of the plan service may be evaluated to some extent by the number of requests filled during the year, and records will be kept so that these figures may be compared with previous and future years.

Public Agricultural Buildings

The demand for assistance in planning public buildings for various agricultural uses has increased in the past few years. Nearly all counties have seen increases in the size of the Extension staff as well as other agencies, and many counties are bulging at the seams with respect to office space. The number of meetings such as fairs, livestock, dairy, and poultry shows and sales is steadily increasing; and in a number of counties efforts are being made to establish permanent livestock centers suitable for this type activity. ^{Interest in the community development approach has increased} This has resulted in an increased demand for specialist assistance in planning such facilities.

A good deal of this type assistance will continue to be given in 1956. Usually the assistance offered will be limited to a conference with the interested group and the furnishing of preliminary plans showing a sketch of the building proposed. ^{Several standard plans for community buildings are available} For major buildings, this is followed by the group engaging the services of an architect, but in some cases the simpler buildings are constructed from these sketches.

This type of work may seem unrelated to the farm buildings picture, but it fills a need for which there appears to be little help available from other sources, and is certainly valuable in helping the agricultural workers in a county to put over their overall program. ^{in a united front}

The demand for community meeting buildings

IRRIGATION

1. ANALYSIS OF PROJECT SITUATION:

The years 1950 through 1954 were so dry, and the damage to growing crops was so great that farmers became desperate. Irrigation made almost unbelievable strides, for a humid area, during this period. No farmer meeting was considered complete without some general discussion of the need for irrigation.

Then came a year, 1955, with adequate rainfall during the growing season of crops; and three hurricanes visited the state before a lot of crops were harvested. It was only natural that the clamor for irrigation should be considerably curtailed. This set back, in the long run, will prove beneficial; but it will make it necessary to re-educate a lot of farmers that were practically ready to start irrigating.

Irrigation definitely has a place in North Carolina agriculture, but it is necessary at this time to revise the program from rushing to meet urgent demands to a broader, more educational, but slower moving program.

Flue-cured tobacco is and will remain the crop most irrigated in this state for many years to come. A brief review of the importance of this crop to our farmers and to earlier reports from both this department and the agronomy department will give full information as to why this is a fact.

At an irrigation short course conducted by this department in November, an association of North Carolina irrigation distributors was organized. This association will work closely with the Southeastern Sprinkler Irrigation Association, and through them with the National Sprinkler Irrigation Association. During 1956 considerable time will be spent in cooperation with this association, and they will be invited not only to participate but to help in planning the educational program on irrigation. In this state we enjoy a wonderful relationship with those in industry in the field of irrigation, and every effort will be made to promote the growth of this association and help

distributors and dealers to realize their responsibility to the farmers.

As might be expected, the sale of equipment fell considerably last year; but all indications are that one dry year will reinstate irrigation to its former place in the thinking of our farmers.

2. MAJOR PROBLEMS:

1. Inadequate water supply:

An inadequate water supply is definitely proving to be the bottleneck to supplemental irrigation on a large number of North Carolina farms. It must be remembered that our annual rainfall is a discouraging factor from the standpoint of selling farmers on the importance of a fairly expensive water supply for irrigation. Water from streams runs up the cost because as a rule it must be pumped long distances to reach the land to be irrigated. Ponds are expensive to construct, and underground water is practically out of the question for two-thirds of the area of North Carolina that is ready to irrigate now.

These conditions are stated as problems, but no intention is made to indicate that they are without solution. Ponds have wonderful possibilities for large areas where underground water is inadequate. Our farmers are just beginning to make use of wells as water supplies, but it is encouraging that at least 15 gravel wall type wells have been constructed during the past two years.

2. Lack of needed information:

- A. Insufficient information on infiltration rate of soils.
- B. Insufficient information on water holding capacities of soils.
- C. Insufficient information on water requirements of crops.

Example: Soil specialists believe the water holding capacity of the soil to the depth that the majority of the plant

roots go should be the determining factor for the amount of water to apply; but on the other hand, the agronomists quite often claim that much less volumes of water should be used, or, in other words, only a part of the root zone should be brought to field capacity. Definite research facts in these cases are badly needed.

D. Lack of personnel to conduct an adequate educational program.

Farmers definitely need more guidance, and dealers and distributors of equipment need more information before systems are set down on farms for inexperienced people to use.

3. WORK TO BE DONE AND METHODS OF PROCEDURE:

- 42 Specialist days in the field
- 90 Specialist days in the office
- 80 County agents to be assisted (plus their assistant agents)
- 4 County agent training schools
- 1 Short course at the college for dealers and distributors of equipment
- 21 General county-wide irrigation meetings
- 12 County-wide demonstrations
- 2 T.V. shows
- 12 News articles

At all meetings and demonstrations related agencies, such as Soil Conservation Service, Vocational Agricultural Teachers, local dealers and distributors of equipment will be invited to attend and to participate in the meeting.

An Extension bulletin on irrigation equipment will be prepared in cooperation with the College personnel engaged in teaching and research work on irrigation.

Special assistance in the form of preliminary surveys and help in connection with developing most economical water supply will be given to individuals in connection with Farm and Home Development.

The irrigation Extension specialist is a member of the Water Resources Committee for the North Carolina Section of the American Society of Agricultural Engineers and through this committee has worked with the Chairman of the Board of Water Commissioners for the state of North Carolina. This Board of Water Commissioners was recently appointed by the governor in compliance with legislation recently passed. They will inventory the water resources of the state and will be called on to administer during times of emergencies brought about by shortage of the water supply, whether it be for irrigation purposes, for industrial needs, or for domestic consumption. It is hoped that this Board of Water Commissioners will be the beginning of a real and complete program governing use of water for the future.

4. RESULTS EXPECTED AND METHODS OF MEASURING:

It is expected at this time that farmers will add approximately 8,000 acres to the total area being irrigated in North Carolina during the coming year. It is expected that approximately 6,000 acres of tobacco will be added to the total being irrigated; and if a normal year is experienced, the additional net income to the growers of this crop should be approximately \$1,000,000.00. It is expected that a large number of commercial nurseries will be irrigated during the coming year. The acreage of general crops being irrigated will be increased, but it is extremely difficult to estimate at this time how much. Attempts will be made to have the acreage irrigated tabulated during the taking of the census. Distributors will be asked to cooperate in making a tabulation of equipment sold. Check surveys will be made to determine the value of the practice.

DRAINAGE1. ANALYSIS OF PROJECT SITUATION:

North Carolina contains approximately 4,000,000 acres that are poorly drained. This figure includes woodlands, much soil areas, and wet sands, as well as wet areas that are cleared. Soil and drainage specialists estimate that one-fourth of the 4,000,000 acres is in cultivation; and that 980,000 acres have some form of drainage, but that not more than one-fifth 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 statewide problem.

When the amount of flat land or nearly level land on a mountain farm is considered, and when it is realized that most of this is taken up by wet areas produced by meandering streams, the problem has tremendous importance even in mountain counties.

The three hurricanes visiting North Carolina during 1955 focused attention of farmers and Extension workers on the need for more adequate drainage systems, particularly in the extreme eastern part of the state. There is a vast area of potentially good land in this area that could be cultivated if forced or pumped drainage was employed. The drainage specialist is at present assisting one large grower with a special plan for adequately draining an area of 544 acres. Because of the very poor outlets for this area, the water will be impounded on an area of land surrounded by dykes. It will be released from this area as the canals leading to the outlet are able to handle the volume of water. Should this project prove feasible, it might easily become the pilot demonstration for a large acreage of land to be given similar treatment.

2. MAJOR PROBLEMS:

- 1. Lack of satisfactory outlets.
- 2. Lack of personnel to satisfactorily conduct the needed educational program.
- 3. The high cost of installing tile drains.

Emphasis will be placed on the fact that money per acre required to provide adequate drainage for these potentially good agricultural lands, in many cases will be less than the amount required to irrigate an acre where lack of water is the problem. This statement does not imply that some irrigation is not needed in this tidewater area, but the bulk of the corn and the bean land in this area would not justify irrigation.

3. WORK TO BE DONE AND METHODS OF PROCEDURE:

An Extension specialist will assist agents in planning and conducting their county programs. In a few special cases specialist will hold the educational meeting and conduct the tile laying or ditch blasting demonstrations. This will be done primarily for the benefit of agent and leader training. The agent will not be expected or encouraged to launch a personal service program. Demonstrations will be educational in nature, and recommendations for seeking service from other agencies capable and set up to render service will be given. Agents will be supplied with teaching aids so that they may feel confidence in carrying on the work.

4. RESULTS EXPECTED AND METHODS OF MEASURING:

Additional income per acre will be realized when wet lands are adequately drained. No extensive plans are being made for evaluating over-all results, but check surveys will be conducted covering special demonstrations

CROP PROCESSING

1. ANALYSIS OF PROJECT SITUATION:

During 1955 weather conditions seriously hampered the quality and quantity of farm products during the harvest season, which directly affected the net income of the farmers. Rainfall and relative humidity again returned to normal for this section of the nation. Prior to 1955 farmers experienced several growing seasons with a moisture deficiency; consequently, it was difficult to interest them in the needs for crop drying as a part of their balanced, well planned farm enterprise. Under normal weather conditions, properly planned drying and storage facilities are a must on the majority of the farms if a high quality product is to be maintained.

As a result of the pressure on agriculture due to the cost of production as related to the price received for farm commodities, it is increasingly important that not only a high quality be produced but the total quantity produced by improved agronomic practices be preserved to maintain a respectable net income.

In searching for efficient methods in the production of livestock and poultry, farmers have discovered the value of farm grain storage coupled with grinding and mixing feeds on the farm. Good storage provides a means for buying grain at harvest and holding it until it is needed. Following this practice, a farmer buys during a season when there is usually a surplus and lower prices, which in the first place increases his net income, and secondly helps relieve the market, which in turn affects other producers.

Grinding and mixing feed on the farm has been profitable to livestock and poultry producers since electric power was available in rural areas. In more recent years with custom grinding and mixing made possible by use of portable equipment mounted on trucks, considerable more interest has been noted. With

new, automatic, compact, and less expensive equipment available, many of the problems involved in home feed processing have been eliminated, thus making this operation more practical for a larger percentage of farms.

2. MAJOR PROBLEMS:

- 1. Lack of needed information.
 - A. Insufficient research information concerning feed processing equipment now available.
 - B. Insufficient research information on natural air drying of grain.
- 2. Farms not adequately wired for crop processing equipment.
- 3. Certain equipment distributors overly eager to sell equipment not tested under local conditions.

3. WORK TO BE DONE AND METHODS OF PROCEDURE:

- 68 Specialist days in the field.
- 95 Specialist days in the office.
- 70 County agents to be assisted (plus their assistant agents).
- 4 Grain schools.
- 13 Hay drying demonstrations.
- 19 Feed grinding and mixing demonstrations and meetings.
- 3 T.V. shows.
- 8 News articles.
- 2 Leaflets, one on hay drying and one on feed grinding and mixing.

Grain Drying and Storage: The North Carolina Grain Committee will continue to hold educational meetings and demonstrations in key grain areas, teaching methods of producing grain from the seed to market. Increased efforts will be made during 1956 in cooperation with the North Carolina Millers' Association to reach the small producers of grain.

Feed Processing: A limited number of demonstrations will be given in interested counties showing the operation of small grinding equipment and custom operated feed processing trucks.

Good storage will again be emphasized as an integral part of the entire program of feed production on the farm.

Equipment distributors will furnish the necessary units which will help tell the grinding and mixing story. The newly formed Electrification Council will cooperate in securing certain materials for these demonstrations and will help promote this program through its statewide membership.

A printed folder is to be prepared by this department in cooperation with other departments on feed grinding and mixing which will provide general information concerning the type and arrangement of equipment needed and basic principles involved in the operation of this equipment.

Hay Drying: A series of demonstrations will be held at sites of platform bales hay driers already in operation. Distributors of hay drying equipment will display the driers available to North Carolina farmers. Hay will be actually dried on the platform. The Extension staff will discuss operation and management of this type installation.

This department will cooperate with certain industrial groups interested in establishing dehydrating plants in the alfalfa producing areas of the state, thereby providing an outlet for alfalfa hay for the farmers in those areas.

4. RESULTS EXPECTED AND METHODS OF MEASURING:

At least twenty new hay drying units should be established during the year which will have a total capacity of drying 20,000 tons of hay. With No. 1 hay selling at a premium of \$10.00 per ton and increasing milk production at the rate of 2,000 lbs. per cow per year, net income to farmers should increase at least \$200,000 during 1956 as a result of these installations.

Instead of 2% of farms that now have feed processing equipment, it is anticipated that 20% of the livestock and poultry farms will be grinding and mixing feed by 1960. This information will be tabulated yearly by surveys made by electric cooperatives. The 1960 census will provide official check figures.

It is anticipated that approximately 1,000,000 bushels of new commercial grain storage capacity will be available to North Carolina farmers in a few short years. With the present trend of 500,000 bushels of on-farm storage being added each year in the state, the pressure from harvest surpluses being dumped on market each season should be relieved.

RURAL ELECTRIFICATION

1. ANALYSIS OF PROJECT SITUATION:

On June 30, 1954, it was estimated that 96.9% of North Carolina farms had electricity. During the past five years with almost all farms in this state provided with electricity, there has been an ever-increasing purchase of electrical farm and household equipment. While electric power suppliers have been steadily maintaining and improving the power distribution systems to take care of the increased load, the consumer has been negligent in providing adequate distribution system of electricity in the home and on the farm.

Many electric cooperatives relatively new in the distribution of power to rural consumers in this state have stressed load building with considerable success. Since the majority of their customers have immediately switched to equipment that use large amounts of power at specific periods, such as electric ranges, they have found themselves caught with an unusually low load factor. Consequently they are continually strengthening their lines and are not realizing the profits that would ordinarily be available. These small businesses need assistance in educating their customers to the advantages of using the many efficient and productive pieces of electrical equipment which will add directly to farm income, as well as increase the load factor of the electric supplier.

The new nationally imposed minimum hourly wage law will affect many farmers and rural industries. Just as industry has felt the pressure to switch to more efficient material handling methods, so should the rural employer realize his needs to produce more efficiently.

During 1955 the North Carolina Farm Electrification Council was formed to promote the increased use of electrical equipment on the farm, in an effort to add to the comforts of living and to increase the net income through use of

more efficient methods. During 1956 the Council will begin its work in cooperating with the Extension Service in its educational programs.

2. MAJOR PROBLEMS:

- 1. The biggest single problem now facing the farmer is an adequate distribution system to take care of the load of electrical equipment needed to improve the efficiency on the farm.
- 2. Lack of research information on productive electrical equipment for the farm.

3. WORK TO BE DONE AND METHODS OF PROCEDURE:

- 42 Specialist days in the field.
- 84 Specialist days in the office.
- 100 Counties to be assisted.
- 20 Agent conferences on h-H Electric program.
- 10 Wiring field days in cooperation with Council
 - 1 Training school for power supplier representatives.
 - 6 District h-H Electric Demonstration Contests.
 - 1 h-H Electric Congress.
 - 3 T.V. shows.
- 12 News articles and radio programs.

In cooperation with The Farm Electrification Council ten farms will be selected throughout the state, through the county agents, for re-wiring and use by the Council for a wiring field day. The first of these projects has been planned, and the field day will be held during the winter.

Electric classes will be held again this year in the h-H summer camps with the power suppliers furnishing the materials and personnel to staff the classes. A training meeting will be held so that all power supplier representatives will teach the same classes and provide the same information.

Electric demonstrations will again be sponsored by the Electric Cooperative Association, and the demonstrators will be encouraged to teach the user of electricity in their counties.

Twenty agent conferences are planned during the winter months to help new agents set up their electric programs for both 4-H and adult groups.

Assistance will be given all the counties in the state by providing them with educational materials for redistribution to the farm family.

4. RESULTS EXPECTED AND METHODS OF MEASURING:

Approximately 5,000 4-H Club families will be reached through the combined efforts of the electric utilities and cooperatives in the 4-H Electric Demonstration and Project programs. The electric classes in the 4-H camps will have a tremendous value in educating rural families to the value of using electrical equipment.

It is estimated that farm purchases of electrical equipment in North Carolina will be \$222,000,000.00 between 1956 and 1960. Lights and house wiring will be the best seller. For these the farmer will spend a little over 20% during the next five years.

Accurate surveys are being made each year by the electric cooperatives, and this information is being tabulated for future use by all interested persons. The census provides a check on many of the items classed as productive equipment.

FARM FENCING

1. ANALYSIS OF PROJECT SITUATION:

Farm fencing represents a big enough problem and calls for enough outlay in labor and cash to give it special treatment in an Agricultural Engineering plan of work. The need for an educational program in fence construction is evidenced by the scarcity of good fence posts as well as properly constructed fences in this state. Farmers are well aware of the expense of fence maintenance. For this reason it is possible to influence them through educational programs to construct better fences, and the quality of fences now being constructed is much better than the quality of fences constructed a few years ago.

The Extension Agricultural Engineering and the Extension Forestry departments have jointly planned a series of fence post treating and fence construction demonstrations.

2. MAJOR PROBLEMS:

- 1. The general belief on the part of farmers that they are experts in fence construction.
- 2. Lack of good fence posts.
- 3. The high price of woven wire and of treated posts.
- 4. The prevailing belief on the part of farmers that barbed wire fences are only temporary at best and should be so constructed.

3. WORK TO BE DONE AND METHODS OF PROCEDURE:

Specialists of the two named departments will assist the county agent in a number of counties in conducting a post treating and fence construction demonstration. A limited number of length of life demonstrations will be installed. These demonstrations are located at prominent places such as near the livestock building at the county fair grounds or at the parking lot

around the agricultural building. A short section of fence, usually 50 to 60 feet in length, is installed. End posts are of the proper size and are properly braced. Five strands of clean #9 wire are used in lieu of barbed or woven wire. The posts are furnished by post treating plants and untreated ones are obtained from other sources. An attempt is made to get a representative post of all those being commonly used by farmers of the county. These posts are set in the fence line. A permanent sign made by stamping letters and figures in a piece of sheet aluminum and then nailing this to a piece of treated 2x8 is made, describing each post and the date it is set in the line. These signs are securely attached to the wire at the post.

The idea behind these demonstrations is that farmers coming to the fair or being called together for one reason or another have a chance to observe the posts, note the date they were set in the ground, and the general condition. When a post fails, the date of failure is stamped on the sign, and a similar post is set in its place with a new sign being provided.

These demonstrations, after several years have passed, will give farmers a quick picture of how long different posts under those conditions lasted, and should be indicative to him of what he might expect under similar conditions.

County agents and others are very pleased with the possibilities of these demonstrations.

4. RESULTS EXPECTED AND METHODS OF MEASURING:

We can definitely anticipate an improvement in the general run of our farm fences. Already properly braced end and corner posts are visible from our highways, whereas a few years ago such an assembly would have been hard to find.

GENERAL

4-H CLUB WORK:

A Farm and Home Safety Record Book and Manual prepared jointly by an Extension Agricultural Engineering Specialist and the Home Management Specialist has considerably promoted safety as a 4-H Club project. More time is being devoted to 4-H safety by the specialists of this department now than has been in the past.

For definite 4-H Club work, refer to sections on Farm Machinery and Rural Electrification.

FARM AND HOME WEEK, 4-H SHORT COURSE, STATE FAIR, ETC.:

All members of this department will participate in conducting these annual programs. Definite plans for these programs have not as yet been made for 1956, but each specialist in the department will spend a great many days in planning and conducting engineering activities during these programs, and time for them has been allotted.

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, National Farm Safety Week, and S-D Day will be distributed through this office. Requests for assistance in connection with special programs will be complied with where possible. While it is impossible to plan all such meetings a year in advance, members of this department assist with conducting several general county meetings each year on subjects, such as the organization of rural fire fighting organizations, safety programs, county fair booths, etc.

SPECIAL FARM ENGINEERING PROBLEMS:

There is a large variety of problems of an engineering nature that confront an Extension Agricultural Engineer on each trip to the field and in his office work. Many agent requests are received from field agents. A few of these problems are on general farm sanitation, the construction and management of farm ponds, county safety programs, farmstead planning, land clearing, special field days, etc. For such phases of an engineering program only tentative plans can be made, with a small allotment of time being taken into consideration.

A number of lines of work have been indicated in this general plan of work even though only a few days of planned time in the field have been allowed. These projects have been included because it is anticipated that they will grow in importance, and more time will be devoted to them in the future. It should not be construed that projects not now being given the attention that they deserve are not considered important by the specialists of the department. It is merely because in allotting time, emphasis must be placed on the lines of work that the general program demands assistance with during the current year.

A PLAN OF SPECIALISTS' WORK AT THE STATE LEVEL

Line of Work

195

Agricultural Engineering Extension

6

E. S. Coates

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 Materials	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, 1955	2	4	1	3	0	3	3	0	2	6	1	2	27
January, 1956	6	2	1	1	1	1	0	2	12	0	0	0	26
February, 1956	0	4	2	2	2	2	0	0	13	0	0	0	25
March, 1956	0	5	1	2	2	3	0	0	12	0	0	2	27
April, 1956	0	3	2	1	2	4	0	0	12	1	0	0	25
May, 1956	0	4	1	3	0	4	0	0	13	0	0	2	27
June, 1956	0	3	2	2	0	2	0	0	16	0	0	1	26
July, 1956	0	2	1	2	0	2	0	0	11	1	6	1	26
August, 1956	0	4	1	1	1	4	0	0	8	0	6	2	27
September, 1956	0	7	1	2	2	6	0	0	5	1	1	0	25
October, 1956	0	7	2	2	2	8	0	0	4	0	0	2	27
November, 1956	0	6	1	2	1	6	0	0	2	1	1	6	26
TOTALS	8	51	16	23	13	45	3	2	110	10	15	18	314

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension 195 6

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 and Glover	Mitchie	Warwick	Conata	
December, 1955							
Beaufort	Drainage	1					
Sampson	Irrigation	1					
Granville	Irrigation	1					
Wilson	Farm Equipment		1				
Davidson	Farm Equipment		1				
Guilford	Farm Equipment		1				
Caldwell	Public Agriculture Building			1			
Cleveland	Public Agriculture Building			1			
Lincoln	Farm Buildings			1			
Daplin	Farm Buildings			1			
Onslow	Farm Buildings			1			
Davidson	Farm Buildings			1			
Mecklenburg	Farm Buildings			1			
Wayne	Farm Buildings			1			
Nash	Housing				1		
Johnston	Housing				1		
Montgomery	Housing				1		
Rockingham	Housing				1		
Davidson	Hay Drying					1	
Johnston	Feed Processing					1	
Wayne	Feed Processing					1	
January, 1956							
Fasquotank	Irrigation	1					
Perquimans	Drainage	1					
Iredell	Irrigation	1					
Iredell	Drainage	1					
Sampson	Farm Equipment		1				
Columbus	Farm Equipment		1				
Anson	Farm Equipment		1				
Edgecombe	Farm Equipment		2				
Vance	Farm Equipment		1				

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension 195 6

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 and Glover	Ritchie	Harrick	Coates	
Granville	Farm Equipment		1				
Lenoir	Farm Equipment		1				
Pamlico	Farm Equipment		1				
Chowan	Farm Equipment		1				
Halifax	Farm Equipment		1				
Franklin	Farm Equipment		1				
Wake	Farm Equipment		1				
Johnston	Farm Equipment		1				
Wilson	Farm Equipment		1				
Bladen	Farm Equipment		1				
Chatham	Farm Equipment		1				
Wayne	Farm Equipment		1				
Nash	Public Agriculture Building			1			
Lenoir	Public Agriculture Building			1			
Pitt	Farm Buildings			1			
Bladen	Farm Buildings			1			
Granville	Housing			1			
Alamance	Farm Buildings			1			
Durham	Farm Buildings			1			
Wilson	Farm Buildings			1			
Duplin	Farm Buildings			1			
Johnston	Farm Buildings			1			
Alexander	Farm Buildings			1			
McDowell	Farm Buildings			1			
Jones	Result Demonstration Housing				1		
Mitchell	Housing				1		
Folk	Result Demonstration Housing				1		
Nash	Housing				1		
Bertie	Housing				1		
Currituck	Housing				1		
Pasquotank	Housing				1		
Lenoir	Housing				1		
Beaufort	Housing				1		
Beaufort	Grain Storage					1	
Wayne	Grain Storage					1	
Caswell	Rural Electrification					1	

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension195 6

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 and Glover	Ritchie	Warrick	Coates	
Randolph	Rural Electrification					1	
Union	Rural Electrification					1	
Anson	Rural Electrification					1	
Yance	Rural Electrification					1	
Macon	Rural Electrification					1	
Cherokee	Rural Electrification					1	
Jackson	Rural Electrification					1	
Swain	Rural Electrification					1	
Graham	Rural Electrification					1	
Clay	Rural Electrification					1	
New Hanover	Rural Electrification					1	
Brunswick	Hay Drying					1	
February, 1956							
Craven	Fence Construction	1					
Greene	Fence Construction	1					
Edgemont	Irrigation	1					
Currituck	Fence Construction	1					
Durham	Irrigation	1					
Orange	Irrigation	1					
Person	Farm Equipment		1				
Surry	Farm Equipment		1				
Catawba	Farm Equipment		1				
Gaston	Farm Equipment		1				
Union	Farm Equipment		1				
Nash	Farm Equipment		1				
Cumberland	Farm Equipment		1				
Duplin	Farm Equipment		1				
Moore	Farm Equipment		1				
Scotland	Farm Equipment		1				
Craven	Farm Equipment		1				
Buncombe	Farm Equipment		1				
Henderson	Farm Equipment		1				
Jackson	Farm Equipment		1				
Richmond	Farm Equipment		1				

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension1956

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 and Glover	Mitchie	Warrick	Cones	
Chowan	Farm Equipment		1				
Bertie	Farm Equipment		1				
Franklin	Farm Equipment		1				
Durham	Farm Equipment		1				
Cleveland	Farm Buildings			1			
Jackson	Farm Buildings			1			
Henderson	Farm Buildings			1			
Halifax	Farm Buildings			1			
Currituck	Farm Buildings			1			
Stokes	Farm Buildings			1			
Surry	Farm Buildings			1			
Ashe	Housing			1			
Nash	Farm Buildings			1			
Edgecombe	Farm Buildings			1			
Chowan	Farm Buildings			1			
Tyrell	Farm Buildings			1			
Washington	Farm Buildings			1			
Craven	Result Demonstration Housing				1		
Person	Result Demonstration Housing				1		
Pitt	Result Demonstration Housing				1		
Vance	Housing				1		
Iredell	Housing				1		
Nash	Result Demonstration Housing				1		
Chowan	Sweet Potato Curing					1	
Currituck	Corn Storage					1	
Duplin	Grain School					1	
Pitt	Rural Electrification					1	
Nash (N)	Rural Electrification					1	
Robeson (W & N)	Rural Electrification					1	
Richmond	Rural Electrification					1	
Caswell	Rural Electrification					1	
Alamance	Feed Processing					1	
Rockingham	Feed Processing					1	
Stokes	Feed Processing					1	
Surry	Feed Processing					1	
Alleghany	Feed Processing					1	

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension195 6

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 and Glover	Albion	Warrick	Cates	
March, 1956							
Piedmont Section	Survey Irrigation	4					
Nash	Fence Construction	1					
Cumberland	Fence Construction	1					
Craven	Teaching Pressure Canner Testing	1					
Granville	Irrigation Demonstration	1					
Warren	Irrigation Demonstration	1					
Surry	Fence Construction	1					
Davidson	Drainage	1					
Alleghany	Farm Equipment		1				
Randolph	Farm Equipment		1				
Lincoln	Farm Equipment		2				
Union	Farm Equipment		1				
Edgecombe	Farm Equipment		1				
Anson	Farm Equipment		3				
Columbus	Farm Equipment		1				
Harnett	Farm Equipment		1				
Hoke	Farm Equipment		1				
Dare	Farm Equipment		1				
Haywood	Farm Equipment		1				
Craven	Farm Equipment		1				
Halifax	Farm Equipment		2				
Northampton	Farm Equipment		1				
Pitt	Farm Equipment		2				
Vance	Farm Equipment		1				
Caswell	Farm Equipment		1				
Onslow	Farm Buildings			1			
Beaufort	Farm Buildings			1			
Cresne	Farm Buildings			1			
Chatham	Farm Buildings			1			
Harnett	Farm Buildings			1			
Granville	Farm Buildings			1			
Rockingham	Farm Buildings			1			
Yadkin	Farm Buildings			1			

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension 195 6

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 and Glover	Ritchie	Warrick	Coates	
Catawba	Farm Buildings			1			
Cleveland	Housing				1		
Polk	Result Demonstration Housing				1		
Franklin	Housing				1		
Nash	Result Demonstration Housing				1		
Wayne	Housing				1		
Wake	Housing				1		
Durham	Rural Electrification					1	
Bladen	Rural Electrification					1	
Columbus	Rural Electrification					1	
Wake	Rural Electrification					1	
Jackson	Rural Electrification					1	
Transylvania	Rural Electrification					1	
Chatham	Feed Processing					1	
Fender	Feed Processing					1	
Clay	Feed Processing					1	
Orange	Hay Drying					1	
Hancombe	Hay Drying					1	
Lenoir	Grain School					1	
April, 1956							
Franklin	Irrigation Meeting	1					
Vance	Irrigation Meeting	1					
Alamance	Irrigation Demonstration	1					
Barnett	Irrigation Meeting	1					
Henderson	Irrigation Meeting	1					
Polk	Water and Sewage Systems	1					
Rutherford	Irrigation	1					
Rutherford	General	1					
Cates	Irrigation Meeting	1					
Caswell	Irrigation Meeting	1					
Surry	Farm Equipment		1				
Cleveland	Farm Equipment		1				
Polk	Farm Equipment		1				

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A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension

195 6

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 and Glover	Ritchie	Warrick	Coates	
Rutherford	Farm Equipment		1				
Granville	Farm Equipment		1				
Martin	Farm Equipment		1				
Alamance	Farm Equipment		1				
Rockingham	Farm Equipment		1				
Greene	Farm Equipment		1				
Johnston	Farm Equipment		1				
Caswell	Farm Equipment		1				
Surry	Farm Buildings			1			
Iredell	Farm Buildings			1			
Cleveland	Farm Buildings			1			
Montgomery	Farm Buildings			1			
Wake	Farm Buildings			1			
Franklin	Farm Buildings			1			
Nash	Farm Buildings			1			
Fender	Farm Buildings			1			
Sampson	Farm Buildings			1			
Swain	Housing				1		
Wilkes	Housing				1		
Alexander	Housing				1		
Stanly	Housing				1		
Robeson	Housing				1		
Fender	Housing				1		
Caswell	Result Demonstration Housing				1		
Rowan	Rural Electrification					1	
Durham	Grain Storage					1	
Iredell	Grain Storage					1	
Montgomery	Grain Storage					1	
Wilkes	Grain School					1	
Wayne	Feed Processing					1	
Wake	Feed Processing					1	
Johnston	Feed Processing					1	
Catawba	Feed Processing					1	
Davie	Feed Processing					1	

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension 195 6

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 and Clever	Ritchie	Warrick	Coates	
Caldwell	Feed Processing					1	
Gaston	Feed Processing					1	
May, 1956							
Martin	Fence Construction	1					
Wayne	Fence Construction	1					
Wake	Fence Construction	1					
Rockingham	Irrigation Demonstration	1					
Currituck	Irrigation Survey	1					
Dare	Agriculture Office Building	2					
Moore	Irrigation Demonstration	1					
Richmond	Irrigation Demonstration	1					
Polk	Farm Equipment		1				
Union	Farm Equipment		1				
Edgecombe	Farm Equipment		2				
Cumberland	Farm Equipment		1				
Graham	Farm Equipment		1				
Stanly	Farm Equipment		1				
Cabarrus	Farm Equipment		1				
Haywood	Farm Buildings			1			
Madison	Farm Buildings			1			
Henderson	Farm Buildings			1			
Sampson	Farm Buildings			1			
Wayne	Farm Buildings			1			
Wilson	Farm Buildings			1			
Chatham	Farm Buildings			1			
Montgomery	Housing					1	
Stokes	Result Demonstration Housing					1	
Chatham	Housing					1	
Edgecombe	Housing					1	
Transylvania	Result Demonstration Housing					1	
Polk	Result Demonstration Housing					1	
Graham	Result Demonstration Housing					1	

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension 195 6

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 and Glover	Ritchie	Marrick	Coates	
Haywood	Rural Electrification					1	
Chatham	Hay Drying					1	
McDowell	Hay Drying					1	
Henderson	Hay Drying					1	
Buncombe	Hay Drying					1	
Randolph	Grain Storage					1	
Jones	Grain Storage					1	
Iredell	Grain Storage					1	
Warren	Grain Storage					1	
Cumberland	Grain School					1	
Granville	Feed Processing					1	
Franklin	Feed Processing					1	
Halifax	Feed Processing					1	
June, 1956							
Richmond	State Forestry Camp	3					
Person	Irrigation Meeting	1					
Nash	Irrigation Meeting	1					
Johnston	Irrigation Meeting	1					
Martin	Irrigation Survey	1					
Fasquetank	Irrigation Meeting	1					
Person	Farm Equipment		1				
Wilkes	Farm Equipment		1				
Randolph	Farm Equipment		1				
Wake	Farm Equipment		1				
Bladen	Farm Equipment		2				
Robeson	Farm Equipment		1				
Onslow	Farm Equipment		1				
Swain	Farm Equipment		1				
Transylvania	Farm Equipment		1				
Cumberland	Farm Equipment		1				
New Hanover	Farm Equipment		1				
Haywood	Farm Buildings			1			
Clay	Farm Buildings			1			

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension

195

6

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 and Glover	Rittonis	Warrick	Coates	
Buncombe	Farm Buildings						
Yancey	Farm Buildings			1			
Gaston	Farm Buildings			1			
Sampson	Farm Buildings			1			
Beaufort	Farm Buildings			1			
Sampson	Housing				1		
Nash	Housing				1		
Wayne	Housing				1		
Wilson	Housing				1		
Cleveland	Housing				1		
Durham	Grain Storage					1	
Cleveland	Grain Storage					1	
Stanly	Grain Storage					1	
Harnett	Grain Storage					1	
Bladen	Rural Electrification					1	
Burke	Hay Drying					1	
Yadkin	Hay Drying					1	
Catawba	Hay Drying					1	
Edgecombe	Hay Drying					1	
Wake	Hay Drying					1	
All Districts	Electric Demonstration Contests					6	
July, 1956							
Caldwell	Irrigation Demonstrations	1					
Ashe	Irrigation Demonstrations	1					
Stokes	Irrigation Meeting	1					
Davidson	Fence Construction	1					
Davie	Fence Construction	1					
Hyde	Drainage	2					
Alamance	Farm Equipment		1				
Union	Farm Equipment		1				
Northampton	Farm Equipment		1				
Beaufort	Farm Equipment		1				
Gates	Farm Equipment		1				
Madison	Farm Equipment		1				
Ashe	Farm Equipment		1				

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension 1956

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 and Glover	Hitchie	Warrick	Coates	
Alexander	Farm Equipment						
Catawba	Farm Equipment		1				
Lenoir	Farm Equipment		1				
Durham	Farm Buildings			1			
Cabarrus	Farm Buildings			1			
Beaufort	Farm Buildings			1			
Iredell	Farm Buildings			1			
Union	Farm Buildings			1			
Randolph	Farm Buildings			1			
Nash	Farm Buildings			1			
Transylvania	Result Demonstration Housing				1		
Graham	Result Demonstration Housing				1		
Madison	Housing				1		
Wake	Housing				1		
Alexander	Rural Electrification					1	
Burke	Rural Electrification					1	
Cabarrus	Rural Electrification					1	
Dare	Rural Electrification					1	
Pasquotank	Corn Storage					1	
Tyrrell	Corn Storage					1	
Washington	Corn Storage					1	
Gaston	Grain Storage					1	
Union	Feed Processing					1	
Durham	Hay Drying					1	
Chatham	Hay Drying					1	
August, 1956							
Swain	Irrigation Demonstration	1					
Clay	Fence Construction	1					
Hacon	Water and Sewage	1					
Brunswick	Drainage	1					
New Hanover	Drainage	1					
Chatham	Farm Equipment		1				
Durham	Farm Equipment		1				
Orange	Farm Equipment		1				
Northampton	Farm Equipment		1				

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension195 6

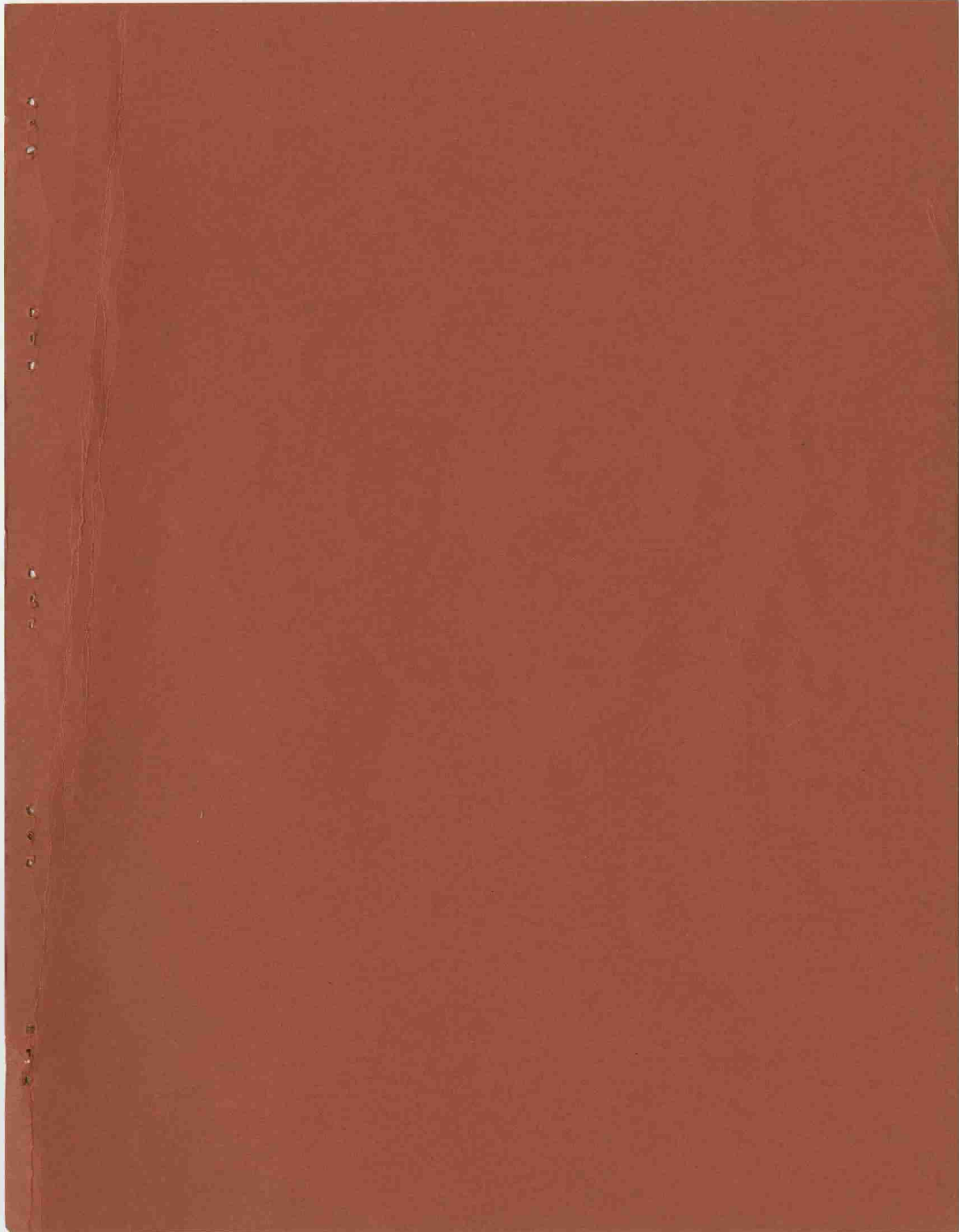
Write in Counties to be served for the month	Description of work to be done in Counties	Days devoted to work by					Total Days to County
		Ellis	Ferguson and Glover	Ritchie	Harrick	Coates	
Pasquotank	Farm Equipment		1				
Tyrrell	Farm Equipment		1				
Buncombe	Farm Equipment		1				
Graham	Farm Equipment		1				
Haywood	Farm Equipment		1				
Jackson	Farm Equipment		1				
Ferquimans	Farm Equipment		1				
Iredell	Farm Equipment		1				
Stokes	Farm Buildings			1			
Mecklenburg	Farm Buildings			1			
Hertford	Farm Buildings			1			
Lenoir	Farm Buildings			1			
Ferquimans	Farm Buildings			1			
Iredell	Farm Buildings			1			
Randolph	Housing				1		
Alamance	Housing				1		
Durham	Grain Storage					1	
Washington	Sweet Potato Storage					1	
Mecklenburg	Sweet Potato Storage					1	
Caswell	Rural Electrification					1	
Davidson	Rural Electrification					1	
Rockingham	Rural Electrification					1	
Carteret	Rural Electrification					1	
Craven	Rural Electrification					1	
September, 1956							
Chowan	Fence Construction	1					
Pasquotank	Fence Construction	1					
Ferquimans	Fence Construction	1					
Duplin	Irrigation General Meeting	1					
Onslow	Irrigation General Meeting	1					
Davidson	Farm Equipment		1				
Caldwell	Farm Equipment		1				
Wayne	Farm Equipment		1				
Sampson	Farm Equipment		1				

A PLAN OF SPECIALISTS' WORK AT THE COUNTY LEVEL

Line of work Agricultural Engineering Extension

1956

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 and Glover	Hitchie	Warrick	Conates	
Moore	Farm Equipment		1				
Robeson	Farm Equipment		1				
Yancey	Farm Equipment		1				
Graham	Farm Buildings			1			
Macon	Farm Buildings			1			
Transylvania	Farm Buildings			1			
Northampton	Farm Buildings			1			
Wayne	Farm Buildings			1			
Harnett	Farm Buildings			1			
Lenoir	Farm Buildings			1			
Lincoln	Housing				1		
Tyrrell	Housing				1		
Pender	Grain Storage					1	
Lenoir	Sweet Potato Storage					1	
Northampton	Sweet Potato Storage					1	
Bertie (N)	Sweet Potato Storage					1	
Mitchell	Sweet Potato Storage					1	
October, 1956							
Warren	Fence Construction	1					
Craven	Drainage	1					
Carteret	Drainage	1					
Pitt	Fence Construction	1					
Wayne	Fence Construction	1					
Jones	Fence Construction	1					
Jones	Farm Equipment		1				
Wake	Farm Equipment		6				
Anson	Farm Buildings			1			
Lenoir	Farm Buildings			1			
Harnett	Farm Buildings			1			
Sampson	Farm Buildings			1			
Hoke	Farm Buildings			1			
Cleveland	Housing				1		
Jones	Housing				1		
Rutherford	Rural Electrification					1	
Edgecombe	Corn Storage					1	



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

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

EXTENSION SERVICE

October 10, 1955

TO: LEADERS OF EXTENSION PROJECTS AND DISTRICT AGENTS

SUBJECT: Annual Narrative and Statistical Reports for 1955 and Plans of Work for 1956.

FROM: C. B. Ratchford, R. W. Shoffner and Ruth Current

We have received suggested outlines for the annual plans of work and the annual reports from the Federal Extension Office. A copy of the suggested outline for your project is enclosed. The annual report and particularly the plan of work should be of more use to you than anyone else. If the suggested outline does not permit you to do a satisfactory job of planning and reporting your work, please feel free to make any changes you see fit. On the other hand, serious consideration should be given to using the suggested outlines as the Washington office frequently adds, and compares reports and plans of work for a particular project from the several states. Obviously, their job is easier if all states follow the same outline.

Deadline Dates for Reports:

We have been instructed by Administrator Ferguson to have all plans of work in Washington by January 1, 1956 and all statistical and narrative reports in by February 1, 1956. In order to meet these deadlines, we would like to have all specialists' plans of work in by December 29, and all annual reports in by January 24. The district agents are going to make every effort this year to have the plans of work in your hands by December 1. While it will be impossible to have the county statistical reports summarized until after the deadline for your annual reports, Miss Schaub has volunteered to pull off a limited amount of information upon request and get this to you in time to include in your annual reports.

Reserve Week of November 21.

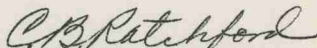
The week of November 21 is annual report and plans of work week for all county Extension workers. During this week you are requested not to make a schedule in counties so the Extension Agents may complete their plans of work and annual reports on time. We suggest that you take advantage of this week to get your plans of work and annual reports blocked out so that you may meet the deadline suggested above.

See Mr. Sloan for Forms and Submit Completed Plans and Reports to Mr. Sloan:

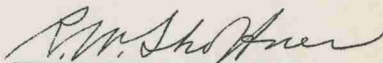
We have asked Mr. Sloan to prepare covers for plans of work and annual reports

and any other forms which will be needed in the preparation of these reports. Please contact Mr. Sloan for this material.

As in past years, each leader will be held responsible for submitting plans and reports embracing all lines of work under his supervision. Plans and reports should be submitted to Mr. Fred Sloan.



Assistant Director



Assistant Director



State Home Demonstration Agent

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

October 14, 1955

MEMORANDUM

TO: LEADERS OF EXTENSION PROJECTS AND DISTRICT AGENTS

FROM: MAUD K. SCHAUB

In addition to the suggested outlines for making the Annual Reports and Plans of Work for 1955 and 56, I am enclosing a sample page of each form that was used last year. These forms will be available in my office and we will be glad to send as many as you need if you will call Extension 367 and give us the number.

This year you need send only two copies of both the Plan of Work and the Narrative Report to Mr. Sloan's office.

Some of the Negro Specialists want to start on their part of the reports, so copies of these outlines have been sent direct to them.

Sincerely yours,

Maud K. Schaub
Maud K. Schaub
Program Planning Specialist

MKS:ig

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

U. S. Department of Agriculture and State Agricultural Colleges Cooperating

SUGGESTED OUTLINE FOR ANNUAL PLANS OF WORK OF SUBJECT MATTER SPECIALIST

Indicate under sections 1 and 3 how the work in this project has been and is to be further integrated into a broad State Extension program of work. Definiteness and brevity are desired.

1. ANALYSIS OF PROJECT SITUATION: Briefly outline facts that relate to the project, including changes, trends, and data pertinent to projected needs in this area. Give specific information on the situation that determined the job to be done in the coming year and how it relates to the overall State Extension program of work.
2. MAJOR PROBLEMS: List, without discussion, the major problems and the specific subject matter to be emphasized this year.
3. WORK TO BE DONE AND METHODS OF PROCEDURE: Outline briefly what the specialist plans to do in promoting the project. Include plans for integration with total extension program and specific methods of cooperation planned with other agencies and industrial concerns in each phase of the project (where it applies), assistance to extension agents, and materials to be developed in furtherance of the work. Give any special plans for work in farm and home development or Rural Development.
4. RESULTS EXPECTED AND METHODS OF MEASURING: State briefly but specifically what benefits may be anticipated as a result of work on the project. Outline plans for evaluating results.
5. PROJECTED PROGRAM NEEDS: Outline briefly plans for developing interest in the solution of other problems in the project area.

*Put in
2725 (no)
note comment*