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NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE

PLAN OF WORK

AGRICULTURAL PRODUCTION, MANAGEMENT AND NATURAL RESOURCE USE - PROJECT III  
Title of Project

EXTENSION ANIMAL HUSBANDRY

Section

1966-67

Fiscal Year

Name and title of worker	Percentage of time Devoted to Entire Project by Each worker
<u>A. V. ALLEN</u> Project Leader	<u>100 %</u>
<u>J. S. Buchanan, Beef Cattle &amp; Sheep</u>	<u>100 %</u>
<u>R. L. McGuire, Beef Cattle (Performance Testing)</u>	<u>100 %</u>
<u>Clint Reese, Beef Cattle, (Performance Testing)</u>	<u>100 %</u>
<u>J. R. Jones, Swine</u>	<u>85 %</u> - 15% Exp. Station
<u>D. G. Spruill, Swine</u>	<u>100 %</u>
<u>J. R. Woodard, Swine (Performance Testing)</u>	<u>100 %</u>
<u>R. W. Swain, 4-H Club Work</u>	<u>100 %</u> 75%
<u>R. F. Behlow, Extension Veterinarian</u>	<u>100 %</u>
<u>J. W. Parker, Livestock Specialist, Albemarle Area</u>	<u>100 %</u>
<u>C. M. Stanislaw, Livestock Specialist, Wilson Area</u>	<u>100 %</u>
<u>_____</u>	<u>_____ %</u>
<u>_____</u>	<u>_____ %</u>
<u>_____</u>	<u>_____ %</u>
<u>_____</u>	<u>_____ %</u>

Signed \_\_\_\_\_  
State Director of Extension

Date Recommended \_\_\_\_\_

Signed \_\_\_\_\_  
Administrator, Federal Extension  
Service, U.S. Department of  
Agriculture

Date Approved \_\_\_\_\_

1966-1967 PLAN OF WORK  
FOR  
ANIMAL HUSBANDRY EXTENSION  
IN  
NORTH CAROLINA

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IN CHARGE, EXTENSION ANIMAL HUSBANDRY

ROBERT F. BEHLOW  
EXTENSION VETERINARIAN

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JAMES R. JONES  
EXTENSION ANIMAL HUSBANDRY SPECIALIST

ROBERT L. MCGUIRE  
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EXTENSION ANIMAL HUSBANDRY SPECIALIST

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**ANIMAL HUSBANDRY PLAN OF WORK**

1966-1967

**PROJECT III**

North Carolina moved into tenth place in swine production in the Nation with the largest increase in numbers of any southeastern state. Our plan is to continue to expand in the coming year. The central part of the State is suited to feeder pig production. We will continue working with Graded Quality Feeder Pig Sales in this area to assure the producers of a satisfactory market for their product. Farmers, feed mill operators and others presently engaged in feeding hogs for market will be encouraged to increase the efficiency of their operations. In many cases this will require increasing volume to justify labor saving equipment. Special emphasis will be placed on record keeping and use of proven breeding stock to increase income. One Area Specialist will work full time on swine in the Wilson area and one will work on beef cattle and swine production and marketing in the Albemarle area.

We have established a good reputation as a producer of feeder cattle and have an excellent marketing program for these animals.

Our cow numbers have made slow but steady growth during the past five years. The decrease in harvested crop acreage makes available land for continued expansion of pastures and cow herds. We will work to increase cow herds in the piedmont and coastal plains sections of the State. Special emphasis will be placed on increasing the income of present herds thru expansion of our performance testing program and all-practice management of production. Stocker cattle production and feeding for market will receive extra attention by our staff.

In spite of very favorable price prospects for lambs and wool, sheep numbers are not expected to increase. We will make an effort to interest the present producers in the mountain and northern piedmont counties to expand the size of their flocks and to improve the quality of their products. This is necessary to make continuance of our present marketing programs feasible.

Expansion of meat animal production during a period of high prices requires that every effort be made to keep investment in breeding stock and equipment to reasonable levels to insure profits under less favorable price conditions. In considering all factors we feel that we have the potential to increase numbers of meat animals and at the same time improve the quality of animals grown by our present producers. The current year should be a banner one for Swine, Beef Cattle and Sheep.

**SWINE****JAMES R. JONES****I. STATEMENT OF PROBLEM**

Farmers, and livestock farmers in particular, do not keep records in sufficient detail to permit an analysis of operations. They do not keep records by enterprise. They fail to understand the value and benefit of records.

College personnel need accurate data gathered from representative hog farms within the State to assure that guidelines and recommendations will be both practical and workable.

**II. OBJECTIVE FOR THIS YEAR**

Involve approximately 20 livestock agents and up to 30 farmers in eastern North Carolina and initiate a complete farm records program with additional and fairly detailed data on the swine enterprise. Field test a program utilizing electronic data processing equipment that provides enough "in depth" information to make it worthwhile, and is simple enough that farmers will take the time to report necessary facts accurately. Offer an acceptable program and lay a foundation upon which an expanded records program can be



build. Supply livestock agents with some working knowledge and background experience in business records.

### III. EXTENSION METHODS TO BE USED

- A. Most of the farms involved will serve as all-practice demonstrations.
- B. Workshops involving only livestock agents, or agents and farmers, will be utilized to explain new methods and provide a closer working relationship between agent and farmer.
- C. Some of these farms will be used as stops for livestock tours.
- D. The records program will be used as a basis from which other recommended practices can be suggested.
- E. Each of the producers will be visited by a Specialist during the year.
- F. An analysis of the operation will be made periodically.
- G. Participating farms will provide on-the-job training for local livestock agents.

### IV. COOPERATION WITH OTHER DEPARTMENTS

The project is a joint venture with Dairy Extension and Farm Management. Dairy Records equipment and experience is being utilized to set up and carry out the program. The support of the North Carolina Pork Producers Association

has been obtained and they have agreed to underwrite one-half the cost of the program. This financial commitment would entail \$60 per farm per year.

#### V. EVALUATION OF RESULTS

A complete summary of all farms will be prepared by Extension Specialists. Individual records will be confidential and research reports published will be summaries on the basis of type of system or size of operation. This information will be made available to county extension workers and hog producers. Such a program lends itself to analysis. Adequate information will be available for "Cost of Production" or "Efficiency of Production" studies.



## SWINE

DAVID G. SPRUILL

## I. STATEMENT OF PROBLEM

This special project has two phases.

A. Feeder Pig Production

This phase was started in 1963 to increase and improve the production of feeder pigs in piedmont, North Carolina. The problem is to stimulate interest in feeder pig production as a source of income on small farms. This area of the State has a real potential to fill the gap that exists in the supply and demand of feeder pigs and to make use of the limited grain supply on many of these farms as well as year round utilization of family labor.

B. Feeder Pig Marketing

This phase was initiated in 1965. Until this time the pigs produced in the piedmont area were marketed on contract or hauled to eastern North Carolina to auction. An educational and promotional quality feeder pig sale was initiated at Greensboro, Hillsboro and Fayetteville.

The Hillsboro sale was on a graded basis.

## II. OBJECTIVES FOR THE YEAR

The Greensboro sale will start on a graded basis in January and the Fayetteville sale in March. Commercial marketing agencies will be contacted and arrangements will be made to turn the sale over to a commercial firm to conduct the sale under the directions of the board of directors, composed of farmers and extension agents.

Efforts will be directed towards increasing the number of pigs in these sales by 25% and the quality of pigs by one-half grade.

Efforts will be made to have all the major feeder pig auction markets on a graded basis in 1966.

## III. EXTENSION METHODS TO BE USED

- A. All practice demonstrations will be used to improve management practices to increase pig production and income.
- B. Educational programs with agents and farmer groups to stimulate interest in feeder pigs.
- C. Educational programs and demonstrations with farmers and agents to demonstrate grading feeder pigs and the advantages of marketing pigs on a graded basis.
- D. Field days and tours to use all practice demonstrations

and to follow-up graded feeder pigs as top hogs at the feeder location and on the rail at a packing plant.

#### IV. COOPERATION WITH OTHER DEPARTMENTS

Information from experiment station personnel will be fully utilized in the program.

The North Carolina Department of Agriculture, Marketing Division, is cooperating with Extension in carrying out this program.

#### V. EVALUATION OF RESULTS

Monthly sale reports will be kept and summarized to show change in number of pigs, grade of pigs, value of pigs, differences in grades, both number and value, value of pigs by weights and location. From this, information for use in education programs by agents and specialist in showing the importance of grade and proper weight range a farmer should shoot for to get maximum returns from his pigs.

In the all-practice program, records will be obtained on production and economics for use in education programs. These records will be summarized and made available to extension agents.

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In the all-practice program, records will be obtained on production and economics for use in education programs. These records will be summarized and made available to extension agents.

## SWINE

J. R. WOODARD

## I. STATEMENT OF PROBLEM

North Carolina's Pork Improvement Program has been underway for four years. In the central test station phase of this program, a total of 545 litters have been tested. In the on-farm phase of the program, approximately 4,000 animals have been weighed and probed for backfat thickness. A mass of data has been accumulated. Thus far, little use has been made of this information in its entirety.

## II. PLAN OF ACTION

## A. North Carolina Pork Improvement Program

1. North Carolina Swine Evaluation Station

Approximately seventy-five purebred breeders have tested 545 litters in the Swine Evaluation Station in the past four years. Due to time spent on other projects, very little time has been spent with the individual breeders in analyzing their station records. More time will be spent with individual breeders in 1966. They will be helped

in analyzing their station records and also given help in planning a constructive breeding program to correct weak points in their herds.

The station program is constantly being expanded and improved to give the participating breeders the maximum information on their pigs. In addition to the usual performance and carcass data furnished the breeders, additional information will also be furnished.

The Federal Inspector at the cooperating packing plant has agreed to supply health information on all station pigs slaughtered. Snouts will be cut and checked for atrophic rhinitis, lungs will be checked for virus pig pneumonia, livers will be checked for parasite damage, tuberculosis lesions and abscesses will also be noted. Breeders will be given this information on their pigs.

The cooperation of the Veterinary Section of North Carolina State University has been obtained to help inform the breeders of their swine parasite problem. A fecal sample is taken from each litter on the day of arrival at the swine evaluation



station. The Veterinary Section provides a parasite egg count on these fecal samples. Breeders will be supplied this information and given recommended prevention and control procedures.

2. On-The-Farm Performance Testing

Over three times as many pigs were weighed and probed in 1965 as compared to 1964. It is realized that this phase of the program offers participating breeders great opportunity for making genetic improvement in their herds because records are accumulated on all animals in the herd. However, due to lack of additional time, no effort will be made to expand this phase of the swine improvement program. It has been clearly demonstrated that the program is both workable and practical. With additional personnel to promote this phase of the program and devote 100% of their time to it, on-the-farm performance testing of swine would make very rapid progress similar to that made in the Beef Cattle Improvement Program.

### 3. Analyze, Publish and Publicize

Four years of swine evaluation station data will be put on IBM cards. This data will be thoroughly analyzed. This information will be published in bulletin form. More magazine, radio and newspaper articles will be used in 1966 to publicize the swine improvement program. Visual aids for the swine evaluation station will be up-dated. A set of slides and script will be developed to publicize and promote on-the-farm performance testing of swine.

## BEEF CATTLE

A. V. ALLEN

## I. STATEMENT OF PROBLEM

A. To Interest More Farmers in Feeding Beef Animals to Slaughter Weights in North Carolina.

During the past ten years efforts have been made at different times to interest farmers in feeding beef animals for the slaughter market. However, it seems that each time when the interest is gaining momentum a price slump comes along to nip expansion in the bud. The last decline in prices during late 1963 and early 1964 is a good illustration and is reflected in numbers of cattle reported on feed as of January 1, of each year.

<u>YEAR</u>	<u>CATTLE ON FEED</u>
1962	32,000 head
1963	34,000 head
1964	50,000 head
1965	46,000 head
1966	45,000 head

A study of the farms reporting reveals that the

decline in number of farms feeding has been greater than the decline in numbers of animals. We had 451 farms reporting cattle on feed in 1964 and 299 in 1966.

An increase in the number of farmers feeding cattle for market plus an increase in the number of animals being fed would have a stabilizing influence on the beef industry as a whole in our State. We have built a good reputation as a producer of feeder cattle including feeder calves, yearling steers and stocker cattle. We are dependent on buyers coming to our State from the corn belt, the Pennsylvania-Maryland area, or from the Georgia-Florida feeding areas to buy our animals. These buyers will shift to other areas of the United States to take advantage of special price situations that may exist. In addition, we are surrounded by states that are expanding feeder production. We need to have local operators to provide a steady market for our feeder producers. Increasing members would also provide our packing plants with a local supply of finished cattle and would aid the marketing of all finished cattle.

**II. OBJECTIVE FOR THIS YEAR**

A special effort will be made this year to interest more farmers in feeding cattle for market. A goal of fifty new persons with cattle on feed January 1, 1967, (total 349) will be set.

**III. EXTENSION METHODS TO BE USED**

A field day for cattle feeders will be held on the University Campus in early spring. The program will be slanted toward the farmers feeding more of his own animals to slaughter weights using home grown feeds, especially silage, as the main part of the ration. Animals now on feed on the University farm will be used as result demonstrations of what can be accomplished by the different feeding methods.

The advantages of increasing the interest in cattle feeding will be stressed to county extension workers in meetings, newsletters and by personal contact. This will include working with county extension committees in planning a long range beef program for their area.

Mass media of newspapers, magazines, radio and T. V. will be used to build up interest of farmers in this project.

**IV. COOPERATION WITH OTHER DEPARTMENTS**

Cooperation of the Farm Management, Marketing Economics, Crop Science, Agricultural Engineering and Food Science

Departments will be needed on the University Campus. The N. C. Cattlemen's Association, N. C. Department of Agriculture, Association of Meat Packers and Breed Association Fieldmen will all be asked to help with this project.

#### V. EVALUATION OF RESULTS

The results can be evaluated by securing the name and address of buyers in our special feeder sales and the percentage of animals moving to in-state vs out-of-state buyers. The report of animals on feed as of January 1, 1967 will give a final basis as the names, feeders and number of animals can be checked against previous lists.



**BEEF CATTLE****J. S. BUCHANAN****I. STATEMENT OF PROBLEM**

This special project was started in 1963, to increase and improve the production of stocker cattle in North Carolina. The problem is to stimulate interest in a beef cattle program for small farms, and supplementing farm income from tobacco and other cash crops on larger farms in the State. The production of stocker cattle is designed to utilize land, feed, labor and equipment during the winter months. Stocker cattle can be produced in all sections of the State and provide one of our best markets for corn silage, hay, winter cover crops, field gleanings and a limited amount of grain.

**II. OBJECTIVE FOR THIS YEAR**

- A. To increase the average daily gain by 20 percent and net income \$15 per head on farms conducting stocker cattle feeding and management demonstrations in 1966.
- B. Increase the number of stocker cattle placed on farms in the State from 7,500 head in 1965 to 10,000 head in the fall of 1966.

### III. EXTENSION METHODS TO BE USED

- A. Conduct 20 all-practice demonstrations of applied research on feeding and management of stocker cattle in five different counties.
- B. County livestock agents and extension specialists will assist stocker cattle producers who are conducting demonstrations as follows:
  - (1) Visit each demonstration farmer and work out a definite plan for his particular operation.
  - (2) Conduct field meetings and tours on the different systems of feeding and management.
  - (3) Furnish information on feed lot equipment and different methods of handling silage.
  - (4) Provide record forms for each demonstration.
  - (5) Make definite recommendations to each stocker cattle producer conducting a demonstration on how he can improve his operation based on his record for this year.

### IV. COOPERATION WITH OTHER DEPARTMENTS

Information from experiment station personnel, forage crops specialists and farm management specialist will be used in conducting all stocker cattle feeding and management demonstrations.

## V. EVALUATION OF RESULTS

A complete summary of all demonstrations will be prepared by extension specialists and this information made available to all county extension workers and stocker cattle producers. This summary will include the cost of cattle, feed cost, average daily gain, sale of cattle and net return per head. An inventory will be taken after the feeder cattle sales this fall to determine the number of stocker cattle placed on farms in the State in 1966.

**BEEF CATTLE****ROBERT L. MCGUIRE - CLINT REESE****I. STATEMENT OF PROBLEM**

Genetic improvement for the entire beef cattle industry will come mostly by improving purebred cattle. During the six years that the North Carolina Beef Cattle Improvement Program has been in operation, emphasis has been placed on improving rate of gain and type score or grade of the animals. Little effort has been concentrated toward carcass evaluation. The final step in performance testing is producing the kind of carcass that will be acceptable by the consumer and profitable for the producer.

**II. OBJECTIVE**

This will be a pilot project that will involve a small number of established purebred breeders that have been on the Performance Testing Program for at least three years. An effort will be made to test sires representing the major beef cattle breeds in the State.

**III. EXTENSION METHODS EMPLOYED**

A. The extension livestock agents will be asked to assist

with the project.

- B. Purebred breeders will be encouraged to participate in the project at the time their calves are weighed for the 205 day record.
- C. Three workshops are planned for county extension workers to familiarize them with the entire Performance Testing Program.
- D. Breed meetings and field days.
- E. County group meetings.
- F. Demonstrations during weighing and grading of the animals on the farm will be conducted when possible.

#### IV. COORDINATION

The project will be coordinated through the county extension personnel. Breed association personnel will be asked to participate in the project. It will be necessary to involve the assistance of the Food Science Specialist, North Carolina Cattlemen's Association, and the North Carolina Meat Packers to carry out this project.

#### V. EVALUATION

Data collected will be made available to the producer and will be included in the beef cattle improvement program's annual report.

**4-H CLUB WORK****ROBERT W. SWAIN****I. STATEMENT OF PROBLEM**

Records show that the number of 4-H members is steadily decreasing in North Carolina. The number with livestock projects is also decreasing. A few reasons for this decrease are as follows:

- (1) Other interest.
- (2) Failure to do good in a certain project.
- (3) Failure of some friend to do good with a certain project.
- (4) Lack of information on the livestock projects.
- (5) Lack of well trained leaders in the livestock project area.

If we will supply the agents in the field the information and training they need to properly train their leaders in leadership and subject matter, 4-H livestock project work will be more interesting to the 4-H member and there will be less discouraging experiences.

**II. OBJECTIVES**

- A. To prepare subject matter information in area now deficient.
- B. Increase animal science 4-H projects.



- C. Study and evaluate the junior livestock shows in the State to make them more educational and to get them in line with future livestock production.
- D. Study and evaluate the county pig chains in the State in an effort to make them more efficient and make them serve a useful purpose in the future.

### III. EXTENSION METHODS EMPLOYED

- A. A bulletin will be prepared on fitting and showing livestock.
- B. Work through state office in developing animal science projects.
- C. Tour to Georgia to study junior livestock shows in their state. Study, survey and evaluate the junior livestock shows in North Carolina and then make recommendations as to how they can be changed to make them more beneficial to 4-H and the entire livestock program.
- D. Study and evaluate the effectiveness of the county pig chains in the State. As many counties as possible will be visited and the weak and strong points noted.

### IV. COORDINATION

All programs and studies will be closely coordinated with the state 4-H office. All studies will also be worked through the counties.

**V. EVALUATION**

The 4-H livestock program will be evaluated through continuous evaluation of each phase of the program and the entire program. The 4-H livestock program will also be evaluated from county results.

## VETERINARY

ROBERT F. BEHLOW

## I. STATEMENT OF PROBLEMS

A. Hog Cholera Eradication Program

At the beginning of 1966, there were four states in Phase I, 29 states and Puerto Rico in Phase II, seven states in Phase III, and 11 states in Phase IV, two of which Vermont and Nevada - have already been officially declared "hog cholera free". North Carolina is now in the second phase of the program. Most of the nation's swine population - about 90 per cent of the hogs - is now in states which are in the second phase of the program. This is the phase in which the incidence of the disease is reduced to a level low enough to permit efficient use of the "stamping out" procedures of Phase III. North Carolina is located on the Atlantic Ocean and once we eradicate Hog Cholera we will benefit materially from increased pork exports.

B. Brucellosis Validation Program

At the present time, 48 states will accept breeding swine from Validated Brucellosis - Free Herds in inter-state movement without further blood tests. This will

eliminate the expense of additional tests formerly required when breeding stock was transported across state lines. Most states require that breeding swine entering the state be negative to the Brucellosis test within 30 days prior to date of entry or originate in a Validated Brucellosis - Free Herd. Only Alaska, Colorado, and Puerto Rico require that breeding swine from a Validated Brucellosis - Free Herd be retested within 30 days prior to entry.

With the expansion of the swine industry in North Carolina it is necessary that we eliminate this disease. Brucellosis is not only a economic loss to swine producers but also poses as a serious public health problem. Sixty-Five per cent of the human Brucellosis is not coming from swine.

There are three strains of Brucella organisms: the cow strain, the swine strain, and the goat strain. While each species has its primary host, each is capable of invading other species of animals and man. This is important in a plan to eradicate the disease in cattle. The control of Brucellosis in cattle must be accompanied by control of the disease in swine and other species of farm animals.

### C. Pig Scour Project

Pig scours is one of our main disease problems in North Carolina. The North Carolina Pork Producers Association has selected this as one of their big problems. In the past year our research here at North Carolina State University has proved that much of this is a parasite problem. In the past, we have followed the Midwest on parasite recommendations. Our climate here is much milder and consequently we have a number of parasites causing serious economic loss that apparently cause little trouble further north. We have found Strongyloides, Nodular worms, Whipworms and Kidney worms are a serious problem in North Carolina. In cooperation with the North Carolina Pork Producers, a survey was made to determine the level of parasite infection in swine. A total of 1,374 fecal samples from 32 farms were examined. Results indicated: 20 farms with Strongyloides most prevalent; eight farms with Nodular worms most prevalent; six farms with Ascarids most prevalent; and 15 farms with a combination of parasites. Internal parasites cost swine producers at least \$1 for each head marketed in North Carolina.

D. Swine Herd Health Program

Disease problems in swine are one of the major factors discouraging some of the big producers from expanding their swine operations. Many smaller producers are already quitting the business because of disease and parasite problems.

E. Beef Herd Health Program

Parasite problems, reproductive problems, and other disease problems are causing heavy losses to North Carolina cattlemen. In addition, Grassy Tetany is a serious problem on some farms grazing fescue pasture where chicken manure is the only fertilizer used.

F. Brucellosis Certification

In 1967 the Federal Government will make some changes in official vaccination with Strain 19. At the meeting of the United States Livestock Sanitary Association in October of last year, the Brucellosis Committee "recommended" that all calves be vaccinated as near four months of age as possible and that research be continued to determine if vaccination at ages earlier than four months would provide serviceable immunity. This is now in progress. This committee further recommended that the



testing age of official vaccinated animals of dairy breeds be reduced to 20 months and that the beef breeds to 24 months. This recommendation would affect mostly animals intended for interstate movement. North Carolina Department of Agriculture has not made any change in regulations to date.

## II. PLAN OF ACTION

### A. Hog Cholera Eradication

Cooperate with the State Veterinarian on the educational phase of this program. Swine committees will be set up in the counties to get this program moving. Swine meetings and swine schools will be conducted to educate our county agents, livestock specialists, and farmers. Radio shorts and educational leaflets from U.S.D.A. will be used. The results will be determined by the progress the State makes on the reduction of incidence. The success of this program will depend upon the North Carolina Department of Agriculture since they regulate livestock shipments and quarantine.

### B. Brucellosis Validation Program

Conduct meetings and swine schools with our livestock

specialists, county agents, farmers and veterinarians on the importance of eliminating this disease. In this approach we will stress the public health aspects of this disease. Radio programs will be conducted along with newsletters to agents. The progress will be determined by the number of validated herds in the State.

C. Fig Scour Project

This is a cooperative study supported by the North Carolina Pork Producers Association. Swine scours will be investigated along the lines of parasites and some preliminary bacteriology. Further studies will be made in the field on the use of Atgard V and Thibenzole for Strongyloides and other swine parasites.

D. Swine Herd Health Program

We will hold meetings at all levels with an attempt to educate the masses in preventive medicine. An ounce of prevention is worth a pound of cure.

E. Beef Herd Health Program

We are presently running a field trial on over 1,000 cattle to determine the best way to prevent grass tetany. This work is being conducted with the cooperation of Dr. Milton Wise. We are using the mass media methods of trying to get people to worm their calves in

the spring and again in the fall. This is one of our prime topics at cattle meetings.

F. Brucellosis Certification

We are attempting to get our cattleman to vaccinate their heifer calves against brucellosis at four through six months of age now, since North Carolina Department of Agriculture regulations have still not changed. This will only affect cattleman shipping interstate.

