

NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE

PLAN OF WORK

AGRICULTURAL PRODUCTION, MANAGEMENT AND NATURAL RESOURCE USE

Title of Project

ANIMAL HUSBANDRY EXTENSION

Section

1962

Fiscal Year

Name and Title of Worker

Percentage of Time
Devoted to Entire
Project by Each worker

JACK KELLEY

100 %

Project Leader

J. S. BUCHANAN, BEEF CATTLE & SHEEP

100 %

A. V. ALLEN, BEEF CATTLE & SHEEP

100 %

J. W. PATTERSON, BEEF CATTLE (PERFORMANCE TESTING)

100 %

J. R. WOODARD, SWINE (SWINE EVALUATION STATION)

100 %

D. G. SPRUILL, SWINE

100 %

R. L. MCGUIRE, 4-H CLUB WORK

100 %

Signed

State Director of Extension

Date Recommended

Signed

Administrator, Federal Extension
Service, U.S. Department of
Agriculture

Date Approved

1962 PLAN OF WORK
FOR
ANIMAL HUSBANDRY EXTENSION
IN
NORTH CAROLINA

JACK KELLEY
IN CHARGE, ANIMAL HUSBANDRY EXTENSION

J. S. BUCHANAN
ANIMAL HUSBANDRY EXTENSION SPECIALIST

A. V. ALLEN
ANIMAL HUSBANDRY EXTENSION SPECIALIST

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ANIMAL HUSBANDRY PLAN OF WORK

1962 - 1963

PROJECT III

Agricultural Production, Management and Natural Resource Use

- A. Major problem of Extension's Clientele - To raise net income with present resources through existing and new enterprises and products.
- B. Major reasons for low net income
 - 1. Unwise use of resources in organization of enterprises.
 - 2. Inefficient production methods.
- C. Major components of this problem (Not necessarily in order of importance)
 - 1. Resistance to change - failure to adopt improved practices and new enterprises.
 - 2. Lack of awareness and training in depth in existing and new enterprise opportunities and limitations on the part of farmers, agents, leaders, other public program agency workers, and agri-business personnel.
 - 3. Lack of research adapted and applicable to local conditions.
 - 4. Lack of wise use of credit and lack of good business methods.

5. Lack of understanding of size of enterprise suitable for full or part-time operation.
6. Poor supply - demand management in both quantity and quality of product.

BEEF CATTLE

1. STATEMENT OF PROBLEM - J. S. Buchanan

The problem is to increase and improve cattle feeding operations and the production of stocker cattle in Eastern North Carolina. Sufficient grain and other feeds are available in most of this area to develop a sound beef cattle feeding operation on many farms. Creating interest and providing the needed assistance for successful cattle feeding operations may be considered a problem, since most of the expansion in this area will be on farms where there has been no experience with feeding cattle and it will be a completely new enterprise.

2. PLAN OF ACTION

- A. Three counties will be selected in different sections of Eastern North Carolina where special emphasis and sufficient time will be devoted to promoting cattle feeding and stocker cattle production. The feeding operations in these counties will be used as demonstrations to encourage farmers throughout the entire area to establish similar operations.
- B. Extension Specialists will work closely with County Agricultural Agents and/or Assistant Livestock Agents in these three counties in planning and conducting a program with cattle feeders. For each county a calendar of events will be arranged by the cattle feeders and Extension Workers.

C. County Agents and Extension Specialists will assist cattle feeders as follows:

- (1) Plan and conduct county meetings to explain different systems of feeding cattle.
- (2) Visit individual farms and assist with a definite plan for feeding cattle on each farm.
- (3) Furnish information on feed lot equipment, and management.
- (4) Assist feeders with buying and selling cattle, and help to work out plans for financing cattle on some farms.
- (5) Arrange field days and tours.
- (6) An Extension worker will visit each farm feeding cattle at least once each month during the feeding period.

D. Cattle feeders will agree to follow a recommended feeding, management and marketing program. Each feeder will keep accurate records on his operation and these records will be made available to Extension workers.

E. A goal of 15 new cattle feeders per year with 450 cattle, has been set for these three counties for the next five years. At the end of five years there should be seventy-five feeders with 2,250 cattle on this demonstration feeding program in the three counties.

1. STATEMENT OF PROBLEM - A. V. Allen

The quality of calves sold in the Rich Square and Monroe Feeder Calf Sales is extremely low. The Rich Square Feeder Calf Sale contained 49% medium calves in 1960 and 52% mediums in 1961. The Monroe sale had 43% mediums in 1960 and 52% mediums in 1961.

2. PLAN OF ACTION

- A. Income per animal on beef farms is dependent on the weight and grade of calves produced. The quality of calves sold in the Monroe and Rich Square feeder calf sales are the lowest in the State with 52% of the number in both sales being medium calves in 1961. If the quality of calves sold could be increased it would raise the return per beef animal in the area.
- B. The main effort will be made to improve the income of the beef farmers in the area by improving the quality of the breeding herds by culling of the cow herds and use of better sires.

Improvement of breeding herds will be slow, but it will be possible to improve the quality of the calves by getting the consignors to adopt better management techniques, such as creep feeding, insect and parasite

control and controlled breeding. The improvement of income from beef cattle by those consigning calves to the feeder calf sales will stimulate interest and adoption of management techniques by additional farmers and increase the income of the beef producers in this section of the State.

- C. (1) Study of the records of the two sales will be made to determine the individuals and counties consigning the greatest number of medium calves to the two sales.
- (2) A meeting of the agents and/or livestock assistant agents will be held to discuss the problems and plan of action to be followed.
- (3) Field meetings and method demonstrations will be held on a community basis in the affected areas to provide information on management practices.
- (4) Visits to individual farms will be made to assist in culling of cow herds and planning for selection of improved sires.
- (5) Plans for construction of calf creeps and working chutes for handling cattle will be furnished farmers. Mimeographed instructions for parasite and insect

control will be prepared and distributed. Suggested rations for wintering the cow herd and creep feeding calves will be prepared and given to the consignors.

- (6) Grading demonstrations to point out the value of higher quality calves will be arranged in each area before the sales are held this fall.

D. This work will be accomplished by the Animal Husbandry Extension Specialists with the cooperation and assistance of the County Agricultural Agents and/or the Assistant Agent in charge of the livestock program in the counties involved.

E. The value of this work can be accurately accounted by a study of the records of the two feeder calf sales and by the improvement in quality of the two sales as compared to the remaining nine sales in the State.

1. STATEMENT OF PROBLEM - J. W. Patterson

One of the major problems confronting the fast developing beef cattle industry in North Carolina is that of increasing the level of quality and performance of their animals. Improvement can be made through changes in management and breeding. Improvement through management has a great potential, but it is only temporary and must be repeated each year. The real improvement

which is of a permanent nature is brought about through changes in breeding. With the great increase in competition from other meat producing animals, fowls and fishes, beef cattle must be bred to do a more efficient and faster job of converting roughage and feed grain into quality meat.

A beef cattle performance testing program was started in North Carolina in 1959. The program was designed to locate breeding animals with superior performing ability for foundation animals and at the same time identify the low producers to be culled.

This is only the first step in selecting breeding animals to meet the demands of the future. They must grow fast as calves on their mother's milk and have enough quality to meet the market demands. This same animal must continue to grow after being weaned at a rate acceptable to the feeder.

The heritability of some of the economical traits to be selected for is weaning weight 23%, gain on feed 60%, and grade 42%. From these heritability estimates, it is evident that improvement can be made with a sound selection program.

2. PLAN OF ACTION

A concentrated effort will be made during the coming year to increase the number of bulls that pass their first test at 205 days to be tested for 140 day feed lot gain.

This work will be done entirely with North Carolina purebred breeders, but in time will improve all cattle in North Carolina which will in turn affect all beef cattle breeders. The approach will involve the Extension Specialists, County Extension Personnel, organized cattle groups, and associated agricultural agencies and industries.

The educational approach:

1. County group meetings.
2. Breed meeting and field days.
3. Farm visits.
4. Demonstrational sales.
5. Mass communications.

Goal of 1962:

1. Fifteen producers
2. Eighty bulls on feed lot tests.

SHEEP

A. V. Allen - J. S. Buchanan

Sheep production will be promoted in the Piedmont and Mountain areas of the State on a farm flock basis.

Extension Specialists will furnish a recommended county sheep program and assist County Extension Workers with demonstrations on feeding and management of a farm flock. Some of these demonstrations on small mountain farms should prove that sheep production is a profitable enterprise on these farms.

Through improved breeding, feeding and management the importance of increasing income per ewe will be stressed in these demonstration farm flocks. Tours, meetings, field days and demonstrations will be used to promote sound and profitable sheep production. Extension Specialists and County Agricultural Workers will stress the economical production of high quality spring lambs. Experiment station results that will help to improve our sheep production will be made available to all County Agents, and Specialists will keep county personnel informed on any new developments in the production of quality spring lambs.

SWINE

1. STATEMENT OF PROBLEM - J. R. Woodard

Pork consumption has remained relatively constant for the last 15 years. During this same period the per capita consumption of beef and poultry has increased markedly. One of the main reasons pork has not held its share of the meat market is the fact that it has not met consumer demands. Consumers today want red meat with a minimum of fat. Pork products generally have not met this demand. Hence, pork comprises a lower percentage of the per capita meat consumption today than in the past.

The problem is to help pork producers develop a product more nearly tailored to meet consumer demands and thereby maintain or even regain a higher percentage of the consumer's meat dollar. The swine producers must be capable of producing a high quality product efficiently so as to be competitive price-wise with other meats.

At the present time only one-third of our market hogs will grade U. S. No. 1.

2. PLAN OF ACTION

The plan of action is to help pork producers develop pork products which more nearly meet consumer demands and thereby

maintain or even regain a higher percentage of the consumer's meat dollar. They must also be assisted in improving efficiency.

The most effective way of solving this problem is by working directly with the producers of "seed stock" -- the purebred swine breeders since carcass quality and the economic traits -- feed efficiency and rate of gain are primarily determined by heritability.

For approximately eight years, all of the major swine breed associations have had an on-the-farm certification program. This program has been designed to help the breeders develop prolificacy and mothering ability in their sows and rate of gain and carcass quality in their offspring. These improved traits have helped improve the performance and quality of the purebred herds in the State. These purebred breeders in turn have been selling improved boars to our commercial swine producers who account for over 90% of our hog numbers. This improved breeding has helped improve the quality of North Carolina swine to the extent that one-third of them meet present market demands. This means that at the present time, $2/3$ of our market hogs are not of the most desirable type. This is a fertile field for making improvement.

In 1961, a new "tool" was implemented. This was a N. C.

Swine Evaluation Station. The program at this station was designed to supplement on-the-farm testing program. It provides breeders with data on rate of gain, feed efficiency, and carcass quality of the various breeds. It should aid in identifying superior lines of breeding stock. This should accelerate the progress of N. C. swine producers in upgrading their swine and providing a better pork product.

The plan of action is to intensify the on-the-farm performance testing program and supplement it with testing work at the N. C. Swine Evaluation Station. The plan would work as follows:

- A. A breeder will enter two pigs per litter from several litters sired by his herd boar or boars in the Evaluation Station. Rate of gain, feed efficiency, and carcass quality will be determined on these pigs.
- B. The breeder will be encouraged and assisted in getting certification data on other litters not entered in the Evaluation Station.
- C. The breeder will be assisted in weighing and probing for backfat thickness all pigs farrowed on his farm. This data will be processed to give an adjusted weight for 180 days of age, an adjusted backfat probe at 200 pounds, and an over-all index or score that is based on size of litter, weight for age, and backfat thickness.

- D. This on-the-farm testing program will give each individual animal a score or index number. Litters will be given an average score. Boars which sired the litters will also be given an index or score based on the scores of litters which he sired.
- E. By having an individual score on each animal the breeder will be better able to select the best animals for herd replacements. The animals with the lowest scores or indexes will be sold for slaughter instead of for breeding purposes. This system takes a great deal of the guesswork out of selecting herd replacements and is a valuable supplement to "eye-ball appraisal."
- F. By having a litter index or score, the breeder will have a good indication of the performance of each sow. This will prove valuable in culling out sows with the poorest performance. It will also assist the breeder in saving herd replacements from sows with better performance records.
- G. By having an index or score on the performance or offspring of each boar, the breeder can readily determine which herd boar is siring the best offspring. This will enable the breeder to know which bloodline to continue and which to discard.

H. A breeder who will follow this testing program will truly be a swine breeder and not just a propagator or a multiplier. He should be able to develop a superior breeding herd. He should be able to supply his buyers with records on feed efficiency, rate of gain, and carcass quality on litter mates of breeding stock offered for sale. He should be able to provide records on back-fat probe, rate of gain, weight for age, individual index, litter index, and sire index on each breeding animal sold.

3. METHODS TO BE USED

- A. Work directly with as many purebred breeders as time will permit. Work will be scheduled through the County Agricultural Agent.
- B. Test as many litters as possible through the N. C. Swine Evaluation Station.
- C. Provide breeders with detailed records of performance of their litters in N. C. Swine Evaluation Station.
- D. Provide each breeder with a detailed record of his herd in on-the-farm testing.
- E. Aid breeders in interpreting their records and make recommendations for improvements.
- F. Publish N. C. Swine Evaluation Station records.

- G. Provide newspaper, magazine, radio and T. V. publicity for testing program.
- H. Educate purebred and commercial breeders to demand performance and carcass data from breeders.
- I. Promote N. C. certified swine.

1. STATEMENT OF PROBLEM - D. G. Spruill and Jack Kelley

The swine industry in North Carolina is undergoing change as it is in other parts of the nation. The swine producer is working on a narrow margin; therefore, must be able and willing to become more efficient in order to stay in the business. There is a trend toward larger and more specialized units which lend themselves to greater efficiency. This necessity for enlarging or specializing is forcing many small producers out of the business. However, many of these small producers could continue in the swine business by choosing the best alternative. For instance, a producer that is limited in land and feed but has his family labor could possibly be most efficient in producing feeder pigs. Or, if a larger amount of land and grain is available and little labor, perhaps buying feeder pigs and feeding them to market weight would best fit into this operation.

With this increase in size and specialization in swine operations, there is a need for more specialized help from the Extension Specialist and the County Agents in planning the type

and size unit that would fit best into a particular farming operation as well as management and production practices for efficient production.

In Eastern North Carolina there are many farmers that are not realizing the potential income from their particular farm enterprises. Each year million of bushels of grain are being sold and shipped out of this area, which if fed to livestock, could increase the value of this grain from 50% to 100%. This additional income to this general area could be realized from the available land, labor and feed.

A large number of hogs are being produced in this area but the number could be greatly increased through emphasis on increased efficiency in existing operation in production practices or expansion of these units to more economically efficient units or by choosing the best alternate in specializing.

In some areas marketing is a problem. In general, market outlets are available, but some of these markets offer no incentive for production of a quality product which would demand a premium.

Piedmont North Carolina offers a great opportunity for feeder pig production. Eastern North Carolina, with grain to feed, will furnish a market for feeder pigs.

Selected counties in the piedmont will be used as pilot counties in developing a feeder pig program.

A planned marketing system will be developed so that pigs can be sold through feeder pig organization.

2. PLAN OF ACTION

A concentrated effort will be made during the coming year to increase the quantity and quality of pork being produced in selected major grain producing counties in Eastern North Carolina and the feeder pig program in Piedmont North Carolina. This will involve the Extension Specialist, County Extension personnel, organized farmer groups, and associated agricultural agencies and industries.

The educational approaches associated with this project involve:

- A. County group meeting on management and production practices to increase quantity and quality on a farm basis.
- B. Farm visits by professional personnel to advise in planning and operation.
- C. Demonstrational field days on quality and efficient production.
- D. Farm tours of outstanding operations.
- E. Mass communication media as well as individual communications on improved practices.

The counties involved are organized and have an advisory council which will guide the program.

The subjects to be emphasized to the individual producer are:

- A. Careful planning of buildings and facilities so they will most efficiently and economically perform the job for which they are intended depending on the type production involved.
- B. Careful attention to selection of breeding stock giving particular attention to performance record.
- C. A controlled breeding program so that labor and facilities can be efficiently utilized.
- D. Care of the sows and litters so that more pigs can be saved.
- E. A good sanitation, disease and parasite control program.
- F. Feeding balanced rations utilizing home grown grains.
Since feeding represents 80% of the cost of pork production, this is an area that should be concentrated on. This would involve grain storage as well.
- G. Attention to marketing. Selling a high quality product in uniform lots to make that pay for quality.
- H. Importance of good records.

These approaches will involve working primarily with selected individuals within the selected counties that are serious in wanting to increase their income through swine. This would not mean ignoring anyone that wants help but emphasis would be placed on the selected individuals.

This concentrated effort in the selected counties would involve a major portion of the work for the Specialist for the coming year.

3. PERSONAL ACTION OF SPECIALIST

- A. Conducting production meetings on breeding, feeding and general management.
- B. Farm visits to individual producers frequently - (every 6 - 8 weeks).
- C. Plan field days and tours.
- D. Carcass demonstrations to emphasize quality.
- E. Swine grading demonstrations.
- F. Information to agents and producers about new and improved techniques.
- G. Attend and participate in area development meeting concerned with swine.

1. STATEMENT OF PROBLEM - Robert L. McGuire

A large percentage of the corn produced in Eastern North Carolina is sold directly off the farm at harvest time. Records are available to show that corn marketed through livestock is a very profitable enterprise. A farmer could expect a 50% to 100% increase in the value of his grain when marketed in this manner. There is a need for some accurate records that could be used to encourage more corn to be marketed through livestock.

2. PLAN OF ACTION

- A. Four Eastern North Carolina counties that produce a considerable amount of corn will be used as pilot or demonstration counties on this project. Each county will have from three to five demonstrations with 4-H Club members that are taking corn as a project. These club members will market their corn through home-grown pigs or ones they purchase. Accurate records will be a help on these projects and the final measure will be made in dollars per bushel for corn marketed through swine.
- B. The educational approaches to be used along with these projects are:
 - (1) County meeting with Extension Staff to be sure the program is well understood and supported by this group.

- (2) County meetings with boys that are interested in project.
- (3) Farm visits by Specialists and Agents during the project.
- (4) County tour by club members during the project to observe how their project compares with the others in the county.
- (5) Tour by farmers or county livestock association members to observe projects.
- (6) Continued publicity throughout the project by radio, newspapers, etc.
- (7) Recognition or awards meeting at the completion of project.

