

Annual Report
OF
Agricultural Extension
Work
IN
NORTH CAROLINA

1933

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
AND
U. S. DEPARTMENT OF AGRICULTURE, CO-OPERATING
N. C. AGRICULTURAL EXTENSION SERVICE
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RALEIGH

THE EXTENSION SERVICE MEETS AN EMERGENCY

A Report of Agricultural Extension Work in North Carolina for the Year Ending December 1, 1933

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The beginning of the Agricultural Adjustment Administration programs set in motion revolutionary changes in farming and agricultural extension work in North Carolina. For the first time a concerted drive was made to adjust crop production to consumption through the cooperation of farmers with other farmers and with their government. This departure from the practice of producing as much as possible could be accomplished only by adapting the machinery for administering extension work to meet the changing requirements and by informing farmers in full detail of the new conception of agriculture. This was no small task.

Members of the extension service, including the county and home demonstration agents, turned practically their entire attention during the last half of the year to crop reduction programs and work incidental to those programs. The plans of work originally scheduled for the year were abandoned or else revised to fit in with the crop control activities. The farmers themselves were asked to do their part by forming committees in each community and county to administer the work locally. County agents reported that they could not have carried on without the help of their committeemen, many of whom served at considerable personal sacrifice.

The need for some form of crop control was obvious. Surplus commodities had glutted the markets until prices fell to unlivably low levels. Farmers could not make ends meet. Mortgages and debts accumulated faster than they could be liquidated. Cotton was selling at about five cents a pound and tobacco at 10 cents or less. The farmers' plight was augmented by a lack of cash from former crops, and had not the balanced farming plans promoted in previous years been effective, the condition would have been of serious consequence.

The overproduction was started during the World War when farming was geared up to meet the demands of the allied nations for food. After the armistice, farm exports dwindled in ratio with the increasing production by foreign countries. But instead of adapting American production to a reduced demand, farmers continued to raise more and more. Futile attempts were made to increase their income by growing more commodities. Such methods have been excusable in times when production and consumption were about equal. But the day came when the law of diminishing returns began to function and the more the farmers sold the less they got.

SITUATION FACED

The extension service was cognizant of the situation created by overproduction and had attempted to meet it by the balanced farming programs

begun intensively in 1929. Seemingly, however, no system of effective cash crop reduction could be successful without coöperation with the government. Previous efforts of farmers to organize for the control of their production and sales had been handicapped by the men who would not participate. When patriotic farmers withheld their crops, independent farmers produced more than before.

Coöperation, therefore, was the watchword of the AAA programs. When the government got behind the country-wide programs for controlling the production of all growers, coöperation began to mean something. Even the most stubborn hold-outs could not remain blind to the advantages of working together. In the long run, it may be that the spirit of coöperation growing out of the initial crop reduction programs may be of greater merit than the emergency work of saving the farmers from bankruptcy.

Another feature of the programs which is expected to blaze a trail to a better agriculture in the future is the added impetus given to balanced farming. Growers are encouraged to use the land withdrawn from the production of base crops to grow other things and thereby diversify their farming so as not to be dependent upon the price vagaries of one commodity. Special provision was made in the reduction contracts that the retired acreage could be used for growing food, feed, and soil-building crops to be consumed at home. This particular feature of the AAA was not developed, however, until the emergency programs for eliminating the surplus of basic crops such as cotton, tobacco, wheat, corn, and hogs had gotten under way. The latter part of 1933 was devoted chiefly to reducing production.

COTTON CAMPAIGN

The first adjustment program launched was the cotton plow-up campaign in the summer of 1933. It began with a series of educational meetings in each community to teach the reason for the removal of growing cotton. A total of 1,000 meetings were held. It was remarkable how many growers understood the theory of destroying part of a crop. But a great many who did not understand were willing to sign plow-up agreements on faith alone. The county agents recommended the plow-up, and the farmers had confidence in the agents. In a whirlwind sign-up campaign, 51,022 growers signed agreements to remove 229,487 acres from cultivation and reduce the year's crop by over 125,000 bales.

For reducing their acreage approximately 40 percent, the growers received \$2,000,000 in rental payments and options on 107,355 bales of cotton held by the government. The options were valued at about \$3,000,000. Further compensation from AAA activities was found in the rise from five

ILLUSTRATIONS ON OPPOSITE PAGE

- Top—A GUARANTEE AGAINST HUNGER. Under instruction from relief and extension agencies, this home garden produced 580 quarts of canned vegetables in addition to that harvested and used fresh. Thousands of such gardens were supervised by extension workers co-operating with the emergency relief office.
- Middle—PLANT MADE WITH RELIEF LABOR. This cannery in Granville County was constructed with relief labor and was used to can over 5,000 quarts of vegetables grown in relief gardens. The home agent may be seen beyond the processing tank giving instruction in the canning of beans.
- Bottom—RESULTS OF CANNING WORK. This material canned from the produce of community gardens was stored for distribution to needy families in the winter of 1933. The home agent and the relief director for the county are seen discussing the supply on hand. Many such store-rooms were filled throughout the State.



cents to about 10 cents a pound in the price of cotton before the year was over. Farmers who had been on the verge of ruin were started back on the road to solvency.

The success of the plow-up campaign paved the way for the wheat, tobacco, corn-hog, and cotton contract sign-up campaigns which were to follow. It had been conclusively proven that farmers could work together, when aided by their government, to adjust crop production and better their living conditions. Approximately 64 percent of the acreage was signed under cotton preliminary agreements; at least 98 percent of the eligible growers later signed the 1934-35 reduction contracts. Due to the economic difficulties of growers with only one or two acres reducing their production 40 percent, these small growers were not considered eligible to sign contracts.

WHEAT PROGRAM

The wheat program followed the cotton plow-up. Although North Carolina farmers have not been producing a surplus of wheat, they were given opportunity to reduce their production and take advantage of the benefit payments offered. The few growers who did produce the grain for sale felt that it would be more profitable to get the government payments for wheat they did not grow than to raise the usual amount to sell at prevailing market prices. Since a large number of farmers in this State are producing wheat only for their own needs, no attempt was made to sign-up growers who did not wish to reduce. After the wheat program had been explained, 1,102 growers signed contracts to remove 3,358 acres from wheat cultivation. For this measure they received benefit payments aggregating \$54,000.

TOBACCO CAMPAIGN

While the wheat program was under way, it became evident that something must be done for tobacco growers. Prices on eastern Carolina markets had slumped to an average of nine or ten cents a pound. Farmers were dissatisfied with prices which would not pay them the operating expenses of their farms. At several markets they broke into open revolt, but generally they showed a peaceful attitude of dissatisfaction. A business meeting was held at State College, attended by elected delegates from each tobacco growing county. A state advisory committee was elected to represent the growers. Other meetings were also held by groups of farmers demanding immediate action.

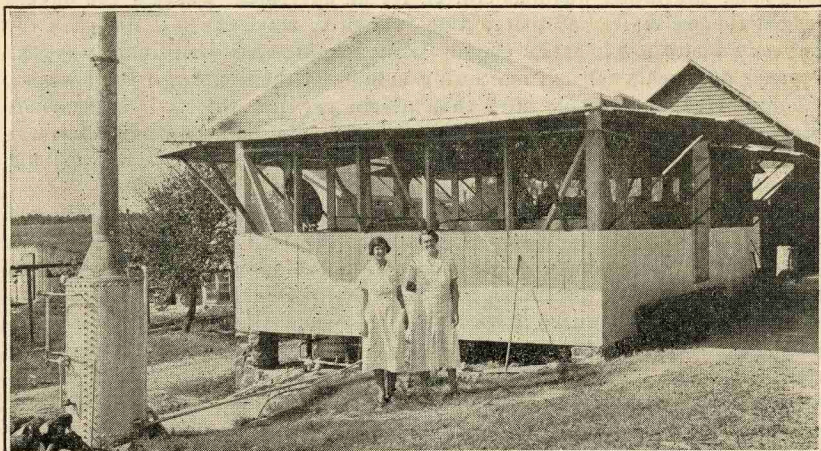
Governor J. C. B. Ehringhaus headed a delegation to Washington to ask the AAA to do something at once to increase the price of the crop then

ILLUSTRATIONS ON OPPOSITE PAGE

Top—THE CITY CANNERY. Inexpensive community canneries were established at strategic points to help can the surplus produce grown in North Carolina in 1933. This cannery was located at the County Home in Durham. More than 800 quarts of vegetables were canned here in one day under the supervision of a 4-H club girl.

Middle—PREPARING TO CAN. Expert supervision was rendered relief agencies by the home agents so that the canning program throughout the State might be effective. As a result over eleven million containers were filled. The relief workers seen above are preparing material for soup mixture at the community cannery.

Bottom—THE EQUIPMENT USED. In the various community canneries, the home agents installed such needed equipment as processing tanks, pressure cookers, sealers and the like so that the work might be done efficiently. The above picture shows one such plant in operation.



being sold. Agitation was also started for an agreement whereby the buyers pledged themselves to pay prices high enough to make the average price for the year amount to 17 cents a pound. While negotiations were under way, the governor declared a tobacco marketing holiday at the request of the growers, who preferred to suspend sales than accept the low prices. The markets reopened after a marketing agreement with the buying companies was placed into effect and prices began to rise immediately, although they did not go so high as the growers wished.

Meanwhile, J. B. Hutson, chief of the tobacco section of the AAA, and Secretary of Agriculture Henry A. Wallace set about the preparation of a tobacco control program to reduce production and provide the growers with benefit payments. In December, the extension service launched the sign-up campaign in the flue-cured tobacco areas. When the campaign was completed, more than 60,000 growers had signed agreements to reduce their crop 30 percent. These agreements, which were later converted into contracts, covered 613,300 acres yielding 440,000,000 pounds of tobacco a year. Under the contracts, the crop was slated to be reduced to about 430,000 acres and 308,000,000 pounds in 1934. Rental payments of \$3,220,000 were offered on the land taken out of production. Equalization payments on that part of the 1933 crop sold before prices reached parity after the marketing holiday were figured at \$2,000,000. Benefit payments of \$5,000,000 were also offered at the rate of 12½ percent of the market value of the 1934 crop.

Close to 98 percent of the State's flue-cured tobacco growers signed contracts. Two factors were mainly responsible for the almost 100 percent sign-up. First was the need for wide-sweeping reforms in tobacco farming to control production and marketing. The excess of production over consumption had undermined the industry and the growers were anxiously awaiting opportunity to participate in some form of control. Second was the liberal benefit payments offered to contract signers. The tobacco contracts were among the most liberal offered in the AAA crop control programs.

SUBSISTENCE CAMPAIGN

The emergency work of the extension service during the summer of 1933 also covered the subsistence gardening and canning programs in connection with the governor's office of relief. Home demonstration agents found that many families were unable to buy the proper foods, neither were they growing them. Few of the relief families knew how to conserve the products of the garden and field for winter use or how to prepare food properly for immediate consumption. As a result of this work, 11,570,950 cans of food were filled under the supervision of home demonstration agents and leaders. The number of persons suffering from malnutrition and other diet-deficiency diseases decreased materially. More than that, farm women sold on home demonstration markets surplus food at a moderate profit and helped out the family income.

The subsistence work was so extensive that home demonstration leaders were appointed to serve in the various counties. Eight hundred of the leaders received compensation for their services, and 956 gave their time and work to relieve conditions in their own communities. The county home agents with the aid of 1,756 such leaders visited and assisted 77,000 farm

families in the State. There were 1,509 organized home demonstration clubs for farm women and girls with a total membership of 42,139 persons, 3,768 of whom were new members. Counting an average of five to a family, the club workers and agents reached 252,895 persons, while emergency agents and their leaders reached 155,072 more persons, making a total of 407,967 people affected.

HOME DEMONSTRATION

Although county finances were in a state of uncertainty, appropriations for whole time home demonstration agents were continued in 53 counties. Buncombe, Columbus, and Swain counties withdrew appropriations for the lack of funds. After the marriage of its home agent, Tyrrell county discontinued its appropriation. Cleveland withdrew its appropriation, but indi-



INEXPENSIVE EQUIPMENT

More than 12,000 quarts of soup mixture were canned at this simple community canning plant by relief workers. The canners and processing tanks were made from old oil drums at a cost of less than \$2.00 each.

cations are propitious that they will be reinstated in July, 1934. Wayne and Columbus counties withdrew appropriations for Negro work, but the Negro home agents were retained as emergency agents through the coöperation of the county office of relief with the extension service.

Rutherford county appropriated in September, and the former Buncombe county home agent was transferred to Rutherfordton. Craven county employed coöperatively with the office of relief an emergency home agent for six months. An appropriation was made in September in order that she might take over the work as a full time agent.

The appointment of emergency agents in 1933 paralleled the situation during the war period of 1917 and 1918 when the government through an emergency fund enabled the division of home demonstration work to place 74 white and 41 Negro home agents in 74 counties to help organize and carry on the great production and conservation program outlined for that period.

In 1933 there were 29 counties added to home demonstration work through the coöperation of the governor's office of relief with the extension service in the employment of emergency home agents for periods of four to six months. Twenty-eight white and eleven Negro agents were appointed to serve in the counties which were not otherwise organized for home demonstration work. Former agents were secured for the positions when possible. Next in line were home economics teachers and others who had had satisfactory training and experience. These women were paid jointly by the office of relief and the extension service.

Since there were still too many North Carolina farms which were not producing an adequate amount and variety of food for the family, the food production program, with special emphasis on gardens and food conservation, continued as a leading part of the home demonstration work for the year. The prevalence of nutritional diseases such as pellagra, constipation, and anemia indicated that there was a pronounced need for more careful food selection, more skillful planning of meals, and better food preparation.

Families were urged to raise more and better gardens and to keep cows and chickens. Canning schools were established and many demonstrations held. Some of the women were taught to can at home, while others gathered at community canneries to conserve their vegetables, fruits, and meats. There were 40,149 vegetable gardens, 13,222 of which were year-round, grown under supervision of home demonstration clubs.

RELIEF GARDENS

The emergency relief office, in coöperation with Charles A. Sheffield, assistant extension director, reported that there were a total of 140,205 relief gardens in 1933 with a combined area of 236,112 acres.

Keeping better care of the home and grounds, planting inexpensive shrubbery, work in making over old clothes, keeping clothes looking nice, dressing children suitably for school, and in making new garments figured prominently in the home demonstration work with club women and 4-H club girls. The establishment and maintenance of curb markets came in for considerable attention, since it was on such markets that farmers and their wives could dispose of produce to better advantage than if peddled from house to house or sold at wholesale prices to merchants. Although individual sales were not large, the cash realized through these markets was an important supplement to many a farm income.

CURB MARKETS

The gross value of farm women's marketing in 1933 was \$404,652.72, as compared with \$327,468.82 in 1932. There were 29 home demonstration curb markets operating during the year, with a reported total sales of \$274,770.25. The year before there were 36 markets, but the total sales

amounted to only \$182,811.25. In addition, farm income was augmented by \$26,245.49 worth of products sold by farm women to institutions, hotels, and merchants, and by \$85,798.09 in sales to local individuals and local merchants, and by \$17,838.89 gained from car-lot shipments of poultry with the help of home and farm agents.

The extension nutritionist worked with the home agents in furthering interest in balanced diet and showing women how to prepare inexpensive foods into wholesome and palatable dishes. The nutrition program was closely allied to the relief garden program and other projects related to the production of an adequate diet on the farm. A total of 33,106 women, girls, and boys enrolled in nutrition projects in 54 counties. There were 478 leaders helping carry on the work.



PREPARING SORGHUM FOR WINTER SYRUP

The production of sorghum for syrup was a feature of work done on the community and city relief farms in 1933. The above picture indicates a demonstration in sorghum making at the High Point farm in Guilford County. Relief labor was used.

As a result of economic conditions, great stress was laid on ways to prepare a diet which would include all the essential foods and yet not be a strain on the pocketbook. With the help of home gardens, however, most of the families were able to secure the needed amount of leafy, stalk, and root vegetables. When possible, families were urged not to live on the minimum diet, but to include meat, eggs, and other such foods to supply the body with energy. The nutritionist reported a 30 percent increase in the number of women foreplanning meals to contain the food essentials for their families.

CLOTHING

The extension clothing specialist also worked in coöperation with the home agents in showing women how to make use of the material available to clothe themselves and their families to best advantage. Old clothes were made to last a little longer and yet look neat. New garments were made from the better parts of several old garments, or garments were worked over to fit other members of the family. Many women made their own clothes from inexpensive material or from cloth furnished without charge through various charitable organizations. One woman made her son a suit and cap from the hip pockets of several pairs of her husband's old trousers. She remarked that in times of depression, the hip pockets of a pair of pants were the last things to wear out. A number of women found it feasible



A DEMONSTRATION IN SORGHUM COOKING

A number of meetings like this was held over North Carolina last fall to instruct relief workers how to convert their sorghum into syrup. This meeting was held by County Agent H. A. Patten in Craven County co-operating with the emergency relief office.

to make undergarments from sacks, even dresses were made from cotton sacks which had been dyed in attractive colors. The family income in certain instances were swelled by earnings of mothers who learned to sew for their neighbors. Interest in the making of attractive clothes was stimulated by the holding of dress revues at which the women and girls were given a chance to display the garments which they had made.

4-H CLUBS

Club work with boys was handicapped by the AAA programs. In this State, the year 1933 was the poorest since 1925. Nevertheless, a number

of individual clubs maintained their work remarkably well. The development of leaders within the clubs served the dual purpose of encouraging leadership among more members and providing clubs with leaders when the county agents found it necessary to devote their time to other things. One of the mediums of for holding club work together was the building of projects around the individual members. It was found that when club programs are built around projects, adverse conditions are likely to thwart them. But individuals interested in their own projects are usually able to find ways for overcoming obstacles.

Club work with girls under the supervision of home agents in 53 counties was carried on in 613 clubs with a live membership of 18,365 girls. There were 8,843 club girls who conducted projects in making clothes and budgeting the amount of money spent for clothing; 10,799 girls did work in food for health, selecting and preparing food, conserving food, preparing school lunches, and scoring themselves for good health practices. Home management and making the home more beautiful and comfortable through the refinishing and repairing of old furniture and adding color in the shape of draperies and upholstering was accomplished by 2,038 girls. Parents were assisted in the work of beautifying the home grounds with plantings, shrub trees, and lawns by 2,089 club girls. A part of every boy's and girl's 4-H club program was given to recreation: games, plays, athletic contests, debates, dramatics, and entertainments. Leaders' schools in recreation were held to train the boys and girls to go back to their communities and teach both young people and adults how to play.

Due to economic conditions and the stress of the reduction campaigns, the annual 4-H short course was not held. The number of camps and achievement days was smaller than in previous years. As a rule, attendance at these camps and achievement days was smaller than before, with the exception of the State camp at Swannanoa, where the entire schedule was filled. The State, however, managed to send its quota of two boys and two girls to the national 4-H camp in Washington. Calf, corn, and poultry exhibits were entered at the State fair. Members also competed in cattle and seed judging contests and won creditable prizes. Seventy-four meetings were held by the boys' State club leader, with a total attendance of 14,532 persons.

NEGRO WORK

Agricultural Extension work carried on by the Negroes is an interesting indication of the advancement being made by the colored race. So far, the Negro home and county agents have been confined to counties which have large colored rural populations. In these counties it was felt that Negro agents could reach the Negro farmers and farm women better than could the overburdened white agents. The Negro agents played an important role in the AAA sign-up campaigns. Appropriations were made for 19 Negro county agents and eight Negro home agents. Eleven emergency Negro home agents and a few men agents to specialize in garden work were appointed. The appropriations made at a time when most county units of government were forced to cut expenses everywhere possible speaks well for the value placed upon the work done by colored agents.

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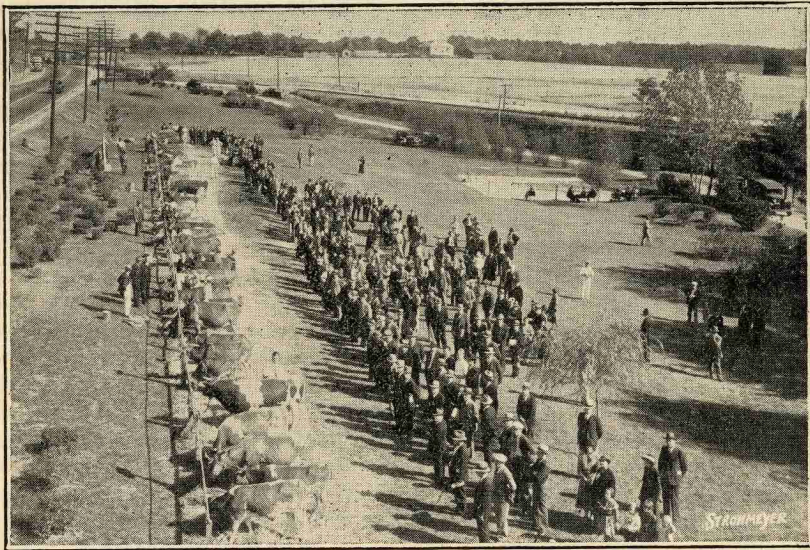
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health and sanitation, and the beautification of home grounds. When given a chance to better their conditions, most rural Negroes showed considerable interest and ambition, and paid close attention to advice from their agents.

PUBLICATIONS

News stories, photographs and mats in connection with the crop control programs were furnished the newspapers of the State, and out-of-State papers, by the division of publications. Material was also furnished to trade periodicals and special programs in connection with agricultural matters. The success of the cotton plow-up campaign was attributed to some extent to the information furnished the farmers through the press about the necessity of crop control and the advantages of coöperation.



DAIRY MEETING

Interest in dairy farming throughout North Carolina appeared to be on the increase in North Carolina in 1933. The above picture shows members of the Guernsey Breeders' Association attending their field day and cattle show at the Guilford County home farm in October.

During the fiscal year ending June 30, 1933, five extension circulars, one miscellaneous pamphlet, five extension folders, and 12 issues of the *Extension Farm News* were published—a total of 102,500 copies being printed. The editor in charge made eight trips to Washington to assist in the preparation of material for national distribution. He also devoted considerable time to publicizing AAA activities. In return, he was given an assistant, paid out of AAA funds, for two months during the cotton plow-up campaign. In addition to the mimeograph service of timely news matter to the daily and weekly papers, spot stories were released morning and afternoon direct to the local papers and through the Associated Press and United Press to papers over the State.

DAIRY EXTENSION

Although handicapped by the AAA programs, dairy extension work was carried out remarkably well. The low price of milk and the depressed consumer purchasing power had hit the market hard, and it was this condition that led to a demand for milk marketing agreements. The dairy specialists spent considerable time helping dairymen in the trade areas of the larger cities prepare milk sales agreements to be submitted to the AAA in Washington; hearings were held later in the various cities affected. Meanwhile, dairymen in the milk sheds of the larger cities were encouraged to sell for beef their less efficient cows.

Work was stressed in improving the quality of the herds and milk and on the sale of more dairy products. The following projects were pushed: herd improvement association work, better feeding work, purebred sire work, dairy manufacturing, and calf club work. Herd improvement was encouraged through better management, efficient feeding, and the introduction of higher quality bulls and cows when possible. The prevailing economic conditions made it impossible to hold all the old members in the herd improvement associations, but at the close of the year there were seven active associations with 71 herds and 2,954 cows.

Creamery butter production in 1933 was 2,688,500 pounds, a drop of 4.15 percent below the previous year. The average price paid the farmers for butterfat was 19.5 cents a pound, two cents more than in 1932. Twenty-five creameries served 11,700 farms. The total value of the butterfat purchased was \$400,000. On the farms, 6,737,669 pounds of butter were made and sold from 46,205 farms. Five factories manufactured 437,500 pounds of cheese from milk supplied by 870 farms. The value of the cheese was \$50,000, of which the farmers received \$40,000. A million and a half gallons of ice cream were manufactured in 33 plants, with much more being produced in small places not classified as ice cream plants. The value of the 1,600,000 gallons of milk used was \$300,000. Twenty-seven plants pasteurized and distributed milk; five of these distributed raw milk also. The milk was purchased from 3,000 farms for \$1,750,000, or an average of 17½ cents a gallon.

AGRONOMY

Extension work in agronomy was enhanced by the AAA crop reduction programs. Both strove for the same goal in the diversification of crops and the rotation of crops for soil improvement. However, during the inauguration of AAA activities, the agents were so busy with the technical details of the sign-up campaigns that they had not the necessary time for demonstrating to farmers what to do with the acres retired from cultivation. Work along this line was to follow during the ensuing year.

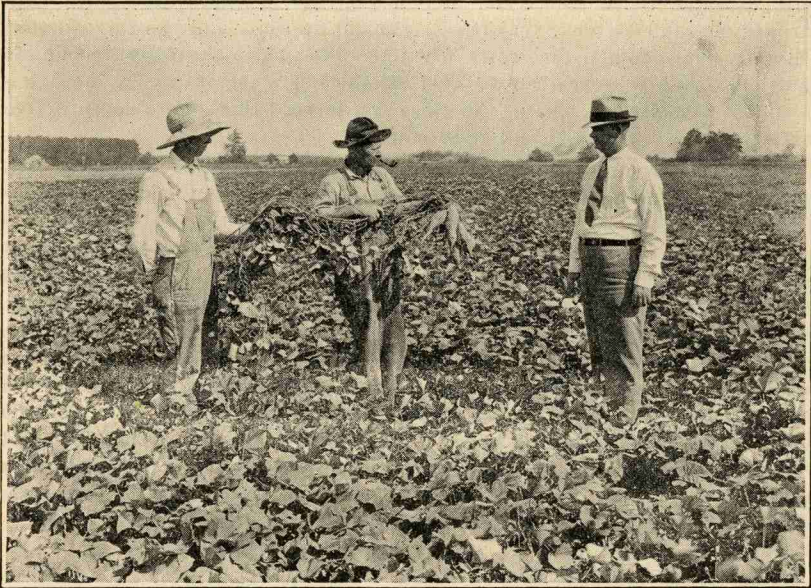
POULTRY

Interest in poultry raising increased during 1933. There were 5,134,000 laying hens on farms in 1933, 303,098 more than for the preceding year, and 653,346 more than for 1929. Egg production rose from 136 eggs per bird per year to 152. The demand for information relative to poultry was tremendous. Extension poultrymen wrote 1,094 letters, held 2,643 confer-

ences, 162 meetings, and conducted 752 demonstrations in an endeavor to foster improved practices.

Probably the greatest progress made was in the increased keeping of records, and the better feeding, breeding, culling, housing, sanitation, and disease control. These projects were fundamental to the economical production program. The outstanding activity was the record keeping by 267 farmers for 58,198 birds. With the records, the poultrymen were able to discover weak points in their programs and correct them. They also found which birds were slackers and culled them from the flocks. They were also brought to a greater realization of the dollars and cents value of poultry raising.

In culling demonstrations, 238 flocks involving 46,787 birds were examined. Of this number 8,147 birds were discarded as unprofitable to keep.



SWEET POTATOES PRODUCED

The acreage to sweet potatoes as a food crop was increased over the State, especially in community and city gardens. This Wayne County field, comprising six acres yielded 1,500 bushels of potatoes which were stored for winter use.

As a result of better sanitation methods and chick care, the livability of birds increased. Reports show that 94.2 percent of the 31,806 chicks hatched from eggs of State blood-tested flocks lived through the first four weeks of brooding. The mortality of 12,757 non-tested chicks was almost twice as great.

HORTICULTURE

The largest project in horticultural extension was the promotion of a coöperative planting of 400 acres of the Latham variety of red raspberries in the area in and surrounding Burke county. The future production is

to be shipped to northern markets. Farmers also were encouraged to plant more certified seed in the production of truck crops and to secure the varieties best adapted to their land. Between 50 and 75 percent of the crop was protected against the apple blight disease by spraying the trees at blossom time with a 1-3-50 Bordeaux mixture. In several experiments the treated trees yielded three times as much fruit as the unsprayed trees. The value of tree-banding to control codling moths was demonstrated by the fact that 75 to 100 worms per tree band were trapped and killed during the season.

ENTOMOLOGY

The work of the extension entomologist in insect control was handicapped by the AAA programs and helped by the weather conditions. The growing season was hot and dry, and insect pest infestations were lighter than usual. Boll weevils were so scarce that demonstrations in eradicating them were discontinued. There were very few cotton red spiders on the plants, although hot weather is conducive to their multiplication.

The tobacco flea-beetle caused little damage to plant beds, but there was considerable injury to the larger plants in the fields. The small midge larvae wreaked havoc in a number of plant beds in the eastern part of the State by uprooting the young plants as they were coming up. The use of naphthalene, discovered by a Robeson county farmer, gave excellent results in curbing the activities of the larvae. Experiments at the experiment station showed that naphthalene does not harm the tobacco plants. The flea-beetle infestation was too light to make any experiments regarding their control with naphthalene.

Cornstalk borers were unusually busy in 1933, causing the worst damage in 10 years. Infestations were general all over the State, and much time was spent in acquainting the county agents with means for combatting this pest. The use of magnesium arsenate to kill Mexican bean beetles was advocated. There was a great demand for the folder on bean beetle control. The damage to stored seed and grain continued, but was lessened by the control methods suggested by the extension service.

BEEKEEPING

The 1933 season was highly profitable to the beekeepers, including farmers and others who kept bees as a side line although nectar secretions were below normal in some sections. It is worthy of note that the farmers who had developed better beekeeping practices along lines advised by the extension service received the largest returns from their apiaries. Great stress was laid on the period of preparation just before the honey flow starts. It has been demonstrated that bees should have all the food they can eat at this time in order to put them in good condition for heavy work. Methods of harvesting the honey so as to interfere as little as possible with the activity of the colonies and to get the greatest amount of honey yield are being adopted by more and more beekeepers each year. The old gum type of hive is rapidly disappearing. Disease control and proper marketing also came in for their share of attention.

American foulbrood and European foulbrood have been identified in 25 counties of the State. A new disease, parafoolbrood, broke out in four

counties. These three diseases kill out the broods and weaken the colonies. Steps were taken to promote better means of preventing healthy colonies from being infected by diseased bees, and in removing bees from infected hives to clean quarters. The treatment and control of the disease was discussed at 51 meetings attended by 537 beekeepers.

Knowledge of how to market honey in well graded, attractive packages was a factor in the increased prices in 1933. Honey sold for an average of 10½ cents a pound, or about \$7 per colony, from apiaries kept as a side line by farmers and others. Professional beekeepers got a greater return from their bees.

RELIEF GARDENS

Relief gardens cultivated during the year saved many a family from hunger and improper nourishment. The assistant director of extension was loaned to the governor's office of relief to give technical direction to the production of vegetables and fruits needed for a balanced diet. Altogether, there were 140,205 relief gardens in rural and urban communities with a total of 236,112 acres. At prevailing farm prices, the produce of the gardens was evaluated at \$12,335,825. Of this amount, \$1,098,957 represents the value of 7,326,397 quarts of food which was canned. The total expenditures of the emergency relief office for seed, fertilizer, sprays, cans, and supervision was \$496,086.17—or an average of \$2.10 an acre for the gardens.

The 129,529 individual relief gardens accounted for 156,713 of the total garden acreage. The expenditures on individual relief gardens amounted to \$273,078.31 of the total relief garden outlay, or an average of only \$1.74 per acre. The value of produce grown in the individual gardens was placed at \$10,624,921. This was a value of \$82 per garden or \$67.80 per acre.

FARM FORESTRY

Forestry extension work in North Carolina is conducted through the agricultural extension service, with N. C. State College and the United States Department of Agriculture coöperating. The extension forester works through the county agents, the home agents, vocational teachers, club leaders, and others in carrying out a program of forestry education and practice with farm timber owners and 4-H club members. Work in forest planting, the growth and distribution of seedlings, and erosion control, and similar measures is conducted coöperatively with the State department of conservation and development, private nurseries, and individual farmers. This applies to the planting of forest trees and the miscellaneous planting of black walnuts in waste places about the farms.

The forestry department of the school of agriculture made good progress during the year both in its student body and the development of the demonstration forests owned by the department. More than 90 students were enrolled in the regular four-year course and a number of agricultural students took courses in the principles of forestry.

According to the United States census of agriculture in 1930, North Carolina has 8,326,334 acres of farm woodland, 1,423,912 acres of which were being pastured. In addition, approximately 4,000,000 more acres of woodland in the hands of small land owners were considered by the exten-

sion forestry service as farm woodland. In the crop land division were 1,073,844 acres of cleared but idle land, much of which was badly eroded to the point where reclamation was practical only through reforestation.

The major phases of the forestry program included plans for the better protection and utilization of farm timber stands; the development of a timber cropping system which would give annual or periodical harvests to supply timber needs of the farm, pay taxes, yield an income on investment, or create "savings banks" of high class standing timber; the maintenance of markets for the disposal of farm timber products and the keeping up of a permanent supply of raw material for the wood-using industries; the reclamation and utilization of eroded lands; and the development of a general appreciation of the value of forests.

AGRICULTURAL ENGINEERING

The work of the extension specialist in agricultural engineering, who serves on a part-time basis, was devoted principally to helping the other departments. Buildings were designed for the animal husbandry, horticulture, and poultry departments; assistance was given the drainage and erosion control work, and advice given home demonstration agents regarding farm home water systems, sanitation, and heating units. Local men were shown how to construct silos, so that they in turn could help their neighbors build silos. Blue prints for various projects were furnished the other departments upon request.

AGRICULTURAL ECONOMICS

North Carolina farmers borrowed \$8,000,000 through the crop production loan office and the Regional Agricultural Credit Corporation to finance the production of their crops in 1933. There has been a decided shift from small banks and time merchants to the production credit associations as a source of the farmers' loans. Two main reasons have been given for the shift; namely, the inability of the two former sources to take care of the farmers' needs, and the necessity of farmers getting money from sources which would not dictate to them where they must buy their supplies or sell their crops.

The agricultural economics department also helped in the organization of the North Carolina Farmers' Co-operative Exchange, a merger and expansion of a number of regional coöperative organizations. The new exchange is expected to save the farmers money by purchasing their supplies in quantity lots and to earn them money by selling their produce on the best markets. Later, the exchange plans to manufacture much of the feed and fertilizer to be purchased by its members.

The AAA crop programs have demonstrated irrefutably the value of coöperation and the farmers over the country are in a more receptive mood for coöperative measures. Most of them are now of the opinion that only by working together can they maintain any semblance of control over their industry. For this reason, the future of the Farmers' Co-operative Exchange has been augured well. It is largely in the hands of private interests, but extension service men in the agricultural economics depart-

ment who assisted in its establishment are still ready to offer their advice and suggestions whenever expedient.

FARM DEMONSTRATION DISTRICTS

A general conception of the work done by the farm demonstration agents can be obtained from the reports of the four district agents. The State is divided into four districts: the northeastern, the southeastern, southwestern, and northwestern. Conditions in the eastern and western halves of the State vary more than those in the northern and southern halves.

In the 27 counties of the northeastern districts, 19 have agents and two others share the services of one agent. In seven of these counties agents were appointed in 1933 to resume work which had been discontinued for some time. The appointments were made in the latter part of the year when the crop control programs were getting under way.

The agents met together early in February to plan their program for the year's work. The first major project was the securing of seed loans for farmers, which required six to eight weeks of their time. A total of \$2,750,000 was borrowed by 22,800 farmers in this district. Then in June came the regional meeting preparing the way for the cotton plow-up campaign. A number of teachers, farmers, and business men attended this meeting. Early in the month of July, similar meetings were held in each community of all the counties and the sign-up work began in earnest. The success of this program over the entire State may be seen in the fact that 51,022 growers signed to retire 229,487 acres from cultivation. Following the cotton campaign was the tobacco program, inaugurated at the request of growers who had become alarmed at the low prices being paid for their weed. Meetings were held and petitions sent the governor asking for a marketing holiday until steps could be taken to boost the prices.

Similar conditions characterized extension work in the southeastern district. The need for county agents to administer the AAA programs was self-evident, and most of the counties made the necessary appropriations when the matter was presented to the boards of commissioners. In a few cases, local men made up enough money to supplement the county appropriations for an agent.

It was hard for the landowners with several share tenants to understand at first the logic of producing less to increase their income. It was argued that tenants had to produce a large volume of cash crops in order to reimburse the landlord for money laid out in financing the tenant before harvest time. But the agents kept plugging away until all could see the advisability of producing one bale at 12 cents a pound rather than two bales to sell at six cents a pound. And when the idea was accepted that tenants could raise most of their supplies at home, the landlords began to see the wisdom of crop control.

In the southwestern district, financial conditions coupled with the fact that new boards of commissioners were in office made it difficult to secure the necessary appropriations. Yet only two counties failed to appropriate for agents after the commissioners had learned the need for them. The wheat and cotton campaigns took up most of the agents attention, since very little tobacco is grown in this district. The 400-acre Latham red raspberry project in McDowell and neighboring counties was an outstanding achieve-

ment of the year outside the crop adjustment programs. To a man, the agents worked on soil improvement as one of the fundamental considerations in agriculture. The production of legumes and small grains for home consumption increased materially. Cream routes were established in several counties and re-established in others where they had been neglected. A cheese and butter plant was established in Albemarle. The setting up of a market in Asheville for beef cattle, sheep, and hogs encouraged the production of animals for sale. In Jackson county the introduction of a new strain of cabbage increased the farmers' income \$40,000.

The northwestern district contains a number of mountain counties. Most of the counties in the district have a board of agriculture, the function of which is to assist the farm agent in carrying out a program of work that will help the farmers solve their agricultural problems. Various civic organizations, the Grange, the press and the bankers also assisted the agents materially in keeping the program of work before the people. An extension



LESPEDeza HAY

The farm agents did not permit interest in soil improving and hay crops to lag during the emergency period. The above picture shows a field of lespedeza that was estimated to yield two tons of dry hay per acre. The crop is now grown in all parts of the State.

program was worked out coöperatively by the county agents and farmers in 303 communities. Nineteen of the 25 counties had full time agents, four had part time agents, and two had none.

Although the northwestern district is not a heavy producer of cotton or wheat, 2,521 farmers signed agreements to plow-up 6,399 acres of cotton and 585 signed contracts to reduce their 11,062 wheat acres by 20 percent. Some tobacco is grown in the district, but the tobacco program was not put into effect in time to be included in the yearly report from this area.

Demonstrations were given on how to improve the soil, secure better seed, fertilize, and harvest the crops. The home gardening projects received the attention of county agents as well as home agents. The balanced program of farming included the production of truck crops for sale as well

as the growing of foods and feeds for home use. The requirements of markets were studied in order that farmers might better know just what to produce and how to get the best results.

AIDED WITH SEED LOANS

During the early part of the year, the county agents over the entire State devoted a great deal of their time to aiding farmers secure seed loans. At that time many of the farmers had but little, if any, cash on hand and most of them were in debt. They would have faced an almost insurmountable handicap at the start of the season had they not been able to borrow money from the government with which to buy seed and fertilizer and to



DELIVERING SEED TO MUTUAL EXCHANGE

In spite of the emergency adjustment and subsistence campaigns, county farm agents devoted much time also to other farm projects. Among these, none was more important than the cooperative local mutual exchanges. County Agent Hendricks of Davidson County is seen here checking in a delivery of pure Norton oat seed to be sold by the exchange later.

finance the early cultivation of their crops. The technical details of applying for loans were complex, and the agents felt obligated to lend their assistance to all growers who asked help in obtaining loans. The loans borrowed in the spring of 1933 amounted to \$6,043,412.00. Only a bare handful of farmers throughout the State failed to pay back the loans, although some were a little slower than others in making settlement.

COUNTIES WITH AGENTS

At the close of the year, there were 88 white county farm agents and 19 Negro county agents employed by the Agricultural Extension Service. There

were 53 white home agents and 11 Negro home agents on full time. During the emergency relief program, 28 white and 11 Negro home agents were employed for periods of four to six months. The emergency agents went to counties where no regular agents were employed.

FUTURE OUTLOOK

The extension service work has been strengthened materially since the establishment of the Agricultural Adjustment Administration. Great demands were made upon the county agents and the specialists, but they rose to the occasion and the work is now in a sounder position as a result. It appears evident that the farmers cannot hope to succeed in an extensive and really effective system of coöperative crop planning without the aid of the government, and the extension service is the essential link between the farmer and his government. Farmers and business men who had never before realized the worth of extension service work have awakened to its importance. Nearly all indications point to a good future ahead.