

The North Carolina Agricultural Extension Service passed the mid-week point in 1974 of its third and most ambitious long-range program, Impact '76. Unveiled in January 1972, Impact '76 ends in December 1976. It contains long-range goals in the production and marketing of agricultural and natural resource products, family living, 4-H and youth, community resource development, and environmental quality.

Although economic conditions have changed drastically since Impact '76 was planned, the program continues to provide a sound blueprint for many Extension efforts. Also, many of the 10,000 local citizens who helped to establish the county-by-county goals for Impact '76 have continued to stay involved in its execution. For this Extension is grateful.

Helping farmers to cope with shortages of fertilizer, fuel and other supplies was a major activity of Extension in 1974.

North Carolina is one of the nation's top five users of commercial fertilizers, and fertilizer supplies were short in 1974 because of expanding crop acreage, overseas demand, and the oil embargo.

The shortage caused fertilizer prices in North Carolina to jump by an average of 25 to 40 percent. Thus, farmers were faced with a new economic squeeze as well as a supply problem.

Extension promoted soil testing, liming, the production of legumes, the use of animal manures, and in some cases a reduction in fertilizer rates as means for coping with the problem. For example, research has shown that many tobacco farmers apply twice as much fertilizer as is needed for the economical production of quality tobacco.

As a result of the energy shortage, and skyrocketing prices for energy, Extension is promoting such concepts as no tillage and double cropping. Information is being offered on the maintenance of tractors and other equipment for maximum fuel efficiency. Extension is also cooperating in an evaluation of solar energy in curing flue-cured tobacco.

Worldwide food shortages and the need to earn export dollars put the American farmer in the spotlight in 1974. And in most instances the farmer performed admirably. He produced high yields of most crops in spite of adverse weather, supply shortages, rampant inflation, and occasional consumer resistance.

Gross farm income in North Carolina remained near the record \$2.7 billion level of 1973. However, sharply rising prices for production inputs left farmers with a lower net. Producers of poultry and livestock suffered most in the income decline. They were caught between high feed costs on the one hand and declining product prices on the other.

Tar Heel tobacco farmers had a good year with gross income reaching \$829 or \$100 million more than the previous high in 1973. Corn and soybeans were other bright spots in the N. C. farm economy with the combined gross from these crops exceeding \$600 million.

Rising food costs and a yearning for the "good ole days" caused a sharp increase in 1974 in the home production and conservation of food. An end-of-the-year survey showed that about 540,000 Tar Heel families grew a garden of some type during the year. Many were young families accustomed to buying all their food.

The flood of requests for gardening information in the spring and early summer turned into a flood of requests for information on food preservation later in the summer. When a shortage of home freezers developed, requests poured in for information on canning. When a shortage of jars developed, people wanted information on drying food -- a practice not generally recommended in North Carolina.

Extension met the demand for information with a "Gardening Is For Everyone (GIFE) Program." Through this program, Extension disseminated 147,000 leaflets on gardening and food preservation in 1974. Extension workers also conducted 2,679 meetings attended by 35,199 people, conducted 75 tours with 1,797 people participating, sponsored 211 exhibits seen by an estimated 316,000 people, presented 1,911 radio and television programs, and wrote 1,393 news articles.

As a result, the home-grown vegetables produced in North Carolina in 1974 had a value of over \$100 million.

Wide distribution was made in 1974 of the results of a comprehensive attitude survey completed by Extension in 1973.

The survey involved over 3,000 Tar Heel citizens, who were asked 167 different questions on such things as community problems, and government services and expenditures.

About 15,000 pieces of literature resulting from the survey were distributed by Extension in 1974. This information was given to at least 4,000 people, 900 of whom attended workshops. The survey also prompted about 90 newspaper and magazine articles.

A sample of 340 state and local leaders who received copies of the survey results showed that over half of these leaders used the information in support of public programs and projects.

Extension plans an even more comprehensive survey on the goals and values of North Carolina citizens in 1975.

Extension's educational program on forward pricing as a marketing tool spread in all directions in 1974.

Assembled initially in 1973 the program is designed to help producers, bankers and brokers understand cash contracts and the futures market as forward pricing techniques. Teaching tools include four publications and 104 minutes of video taped information.

By the end of 1974, extension economists had:

- trained agents in 44 counties in forward pricing techniques and these agents, in turn, had conducted or scheduled 16 eight-hour schools for producers;

- conducted two regional workshops for North Carolina bankers, conducted a three-day conference for 60 agribusinessmen in Delaware, and taught a 2-day hedging seminar in St. Louis for top and middle management of the Farm Credit Administration;

- received requests for training materials from 13 states, Canada, Bache & Co., the Chicago Board of Trade, and Chicago Mercantile Exchange. The Board of Trade called the program "one of the most outstanding of its type."

Another increase was noted in 1974 in the number of farmers selling products directly to consumers through roadside markets and pick-your-own operations.

Extension has been aiding and abetting this trend through tours, educational meeting, promotional activities, and by helping farmers to organize North Carolina Farm Markets, Inc., in 1971.

North Carolina now has over 2,000 acres of pick-your-own strawberries -- a 10-fold increase in 10 years -- as a result of this growing interest in direct selling. Acreages of snap beans, southern peas, tomatoes, apples, blueberries, peaches, sweet corn, and several other crops are also increasing. With a strong educational and promotional effort, direct selling could become a \$40 million annual business for North Carolina farmers within a few years.

### Parasites or Profits

About 12,000 fecal samples were examined by state diagnostic laboratories during the first full year of the North Carolina Swine Parasite Control Program.

Organized by Extension with broad industry support, the program seeks to identify and reduce internal parasites of swine. Fecal samples analyzed so far indicate over 80 percent of the swine herds in the state are infected with one or more internal parasites, with nodular worms, strongyloides, whip worms and round worms as the most prevalent.

By controlling these parasites, Tar Heel swine producers could increase their profits \$10 million annually.



The move to a more market oriented agricultural economy has spurred the need for Extension information that will help farmers make sound management and marketing decisions.

Producers of corn, soybeans, cotton and small grain are largely on their own -- free from government programs of the past. Yet, price and cost relationships change rapidly. Good decisions pay high dividends; mistakes are very costly.

Extension is trying to help farmers deal with the uncertainties of present-day agriculture through special meetings and materials called "Decisions for Profits." Involved in this special educational effort are both specialists and agents, and both farmers and agribusinessmen.

Tobacco farmers may be able to realize huge savings by extending the harvest period, according to Extension on-farm tests conducted in 1974.

The tests showed that a tobacco farmer might be able to extend his harvest period several weeks by adjusting planting dates, nitrogen rates and harvest rates. Even a three-week extension of the harvest season would increase the capacity of barns and harvesters by 43 percent. Such an extension would cut the cost of tobacco mechanization from \$1,400 to \$800 per acre, enable tobacco farmers to make better use of their permanent labor, and bring harvesting schedules more in line with present marketing schedules.

The tobacco harvest studies were among hundreds of on-farm tests conducted by Extension in 1974. These tests involved all major crops in every part of the state.

Extension workers joined Experiment Station scientists in 1974 in establishing a facility to demonstrate how agricultural wastes might be used as fertilizer.

This demonstration facility was installed at Chick Sales, Inc., a new hatchery near Siler City. Hatchery wastes are ground and mixed, treated in two outdoor lagoons, and eventually used to fertilize seven acres of coastal bermudagrass and 14 acres of fescue. Incorporated into this closed biological system are a number of environmentally-sound principles developed at N. C. State and elsewhere.

Extension conducted many other educational activities in 1974 on the proper land application of agricultural wastes. This effort was made necessary initially by new state and federal legislation on water pollution. The rising cost of fertilizer is now making it even more desirable to apply the nutrients in animal manure and other agricultural wastes to the land.

Some 550 farm families participated in 1974 in Extension's Agricultural Opportunities Program.

This program is designed to give special assistance to families with limited resources. It is conducted through A. & T. State University by 23 agricultural technicians stationed in 17 counties. Most of the assistance given in 1974 related to dairying, swine, beef, vegetable and tobacco production.

"I've been farming this same farm for 18 years and nobody ever cared enough about me to help in any of my problems until now," one of the cooperating farmers told his technician.

About 250 Grade A dairymen have enrolled so far in an Extension sponsored program to help combat their most expensive herd health problem -- mastitis.

A mastitis screening option was added to the regular DHIA testing program to enable dairymen to detect mastitis at an early stage. One milk sample per cow is screened each month for the presence of the infectious bacteria which cause mastitis. This screening test will pick up the presence of mastitis long before the problem becomes visible to the dairyman. Thus, treatment can begin immediately.

About 20,000 cows have been enrolled in the screening program so far. It is estimated that mastitis costs the average dairymen \$100 per cow annually through discarded milk, medication, culled cows and lowered production.

Two additional steps have been taken to help livestock farmers identify superior breeding stock. A boar testing program has been started at the Swine Evaluation Station, Central Crops Research Station, Clayton, and a bull testing station has been added to the facilities of the Piedmont Research Station, Salisbury. Extension is also continuing to work with the bull testing station at the Upper Coastal Plain Research Station, Rocky Mount.

Both the bull and boar testing programs are designed to identify superior breeding stock grown under a common environment. Extension also conducts on-the-farm testing programs, but these do not pinpoint genetic differences in animals as well as testing at a central facility to eliminate individual farm influences.

The North Carolina Milk Commission requested Extension's help in determining the cost of producing milk on Grade A dairy farms in 1974.

Extension responded by providing the Commission with quarterly reports containing data on the net cost of producing milk in the state, components of net costs, returns to management and similar topics.

Information for the reports came from a random sample of Grade A dairymen who volunteered to participate in the study. The Commission, in turn, used the reports in setting price increases for dairymen during the year.

Dairymen took the road again in 1974 in a search for new and innovative ideas. Some 129 dairy leaders representing 66 N. C. dairy farms toured dairy farms in New England and the Elora Dairy Research Center in Canada. Featured on the tour were rotary and polygon milking parlors, father-son partnership arrangements, and herd management ideas.

Extension sponsored the tour in cooperation with the N. C. Dairy Herd Improvement Association. It was similar to a tour to California in 1970 and a tour to Washington State in 1972.



### "Show Me" Facility

The North Carolina Swine Development Center has attracted over 3,500 visitors since it was redesigned in the summer of 1972.

This "show me" facility is operated jointly by the N. C. Agricultural Extension Service and the N. C. Department of Agriculture at the Upper Coastal Plain Research Station, Rocky Mount.

The Center is designed to show swine producers how they can put the latest Extension recommendations to work on commercial farms. Evidence of the Center's influence can be seen across the state in the facilities and productions systems being developed by Tar Heel farmers.

Tightening markets increased the need in 1974 for Extension's educational program on lumber yield for the furniture industry.

The program has enabled many furniture plants to get 15 percent more usable lumber from their hardwood supplies. Information on the size and quality of wooden pieces needed by a furniture manufacturer is fed into a computer along with statistics on the size and quality of timber available. The computer, in turn, calculates the cuts that will give the maximum yield.

The basic research on increasing lumber yields was conducted by the School of Forest Resources at N. C. State. Extension is taking this information to North Carolina's 400 furniture plants through seminars and other types of training for employees.

A new idea for reducing tobacco pest losses was tried for the first time by Extension in 1974.

One extension agent in each of three counties was designated to work with selected tobacco farmers on a total pest management program. These agents kept track of insects, nematodes, diseases, suckers, and nutrient deficiencies on 994 acres of tobacco.

The idea is to see if farmers can afford to hire "scouts" on a commercial basis to advise them on pest problems and controls. Ninety-two growers in Columbus, Bladen and Lenoir cooperated in this pilot effort in 1974.

Experimental pest management programs in previous years dealt only with insects. By broadening the program to include all pests, it is felt that paid scouts would be more economically feasible for growers.

North Carolina's huge poultry industry is receiving educational assistance from Extension in the form of management training.

Extension is offering seminars for managers and plant supervisors in the poultry industry in an effort to help them increase employee satisfaction, improve work output, and lower employee turnover. Covered in the seminars are principles of management, plus communications and motivational skills. The seminars are adaptable to the needs of top, middle and lower levels of management. Those completing the course are awarded a certificate from N. C. State University.

Least-cost feed formulas are one of the things that Extension is providing to help farmers hold down costs.

Every six weeks the broiler and egg industries are provided with diets formulated on four different planes or energy levels. The turkey industry gets a similar diet formulated on three planes. Each broiler diet is accompanied by a prediction of how the birds will perform and the cost per pound of meat. Slightly different calculations are offered for the turkey and egg industries.

More recently Extension has begun an individualized least-cost feed formulation service for dairymen. Dairymen indicate the kind, cost, and quality of feed ingredients available to them. Extension in turn uses a computer to figure the least-cost, nutritionally balanced, most palatable ration for the dairyman. A fee of \$10 is charged for this service. Similar least-cost formulations can be provided pork and beef producers.

Feed costs account for 50 to 80 percent of the total costs of producing meat, milk, eggs and poultry.

Legumes moved into the spotlight in 1974 as hard-pressed dairy and beef cattle producers searched for more economical feed sources.

Soaring nitrogen prices, high grain prices, and low beef and milk prices created a need for more forage of all types, and especially clover and alfalfa.

Extension responded with many meetings, tours and demonstrations on pasture establishment and renovation. Two techniques for introducing ladino clover into established stands of fescue and orchardgrass received much attention. At least one million acres of North Carolina pasture could benefit from this practice.

Extension also pushed the production of alfalfa -- once known as the Queen of the Forages -- by showing farmers how they could cope with the destructive alfalfa weevil.

Extension agents and specialists continued to work hand-in-glove with Experiment Station scientists in 1974 in an effort to find a remedy for the destructive black rot disease of peanuts.

The disease, which has now spread to all peanut producing counties in the state, is potentially the most serious peanut production problem in the South.

Chemicals, rotation and resistant varieties are methods being studied as control possibilities.

Extension took a step in 1974 toward unifying its many programs related to safety. One specialist was given the responsibility for coordinating safety programs. Chief among these are pesticide safety, and programs related to the new Occupational Safety and Health Act (OSHA).



Extension increased its use of television in 1974 as a medium of both internal and external communication. The six-part "Mulligan Stew" series was credited with reaching over 100,000 youngsters. Other series which Extension produced or supported included "NOW", "Backyard Gardener", "It's Your Money" and "Feeling Good." About a dozen workshops were produced for educational and commercial stations, and resources were obtained to produce more news features for commercial stations.

Extension's video tape system also became fully operational during the year. The system was used to produce 22 instructional titles involving 64 separate program segments. County extension workers requested these titles on 910 different occasions.

A detailed review was conducted of Extension programs in Union and Edgecombe counties in 1974 following a testing of the new review procedure in Wilson County in 1973.

A team of eight state, district and county extension workers interviewed about 25 significant lay citizens in each county to help determine the strengths and weaknesses of the extension program in the county.

Comments of the citizens, plus observations of the review team, were used in suggesting program improvements.

Against a backdrop of double-digit inflation and a deepening recession, Extension increased economics training for its employees from 400 agent-days in 1973 to 755 days in 1974.

This set-up in training is part of a five-year effort to broaden the economic knowledge of agents. Seven week-long courses in economics were offered in 1974 and more are planned for the coming months. Each course deals with basic economics, production economics, marketing economics or home economics.

Total staff development activities included 95 in-service training schools and conferences, which provided 3,121 agent-days of training. Other statistics for 1974 show: about 225 staff members completed at least one college course; 8 staff members received master's degrees; and 2 staff members earned doctorates.