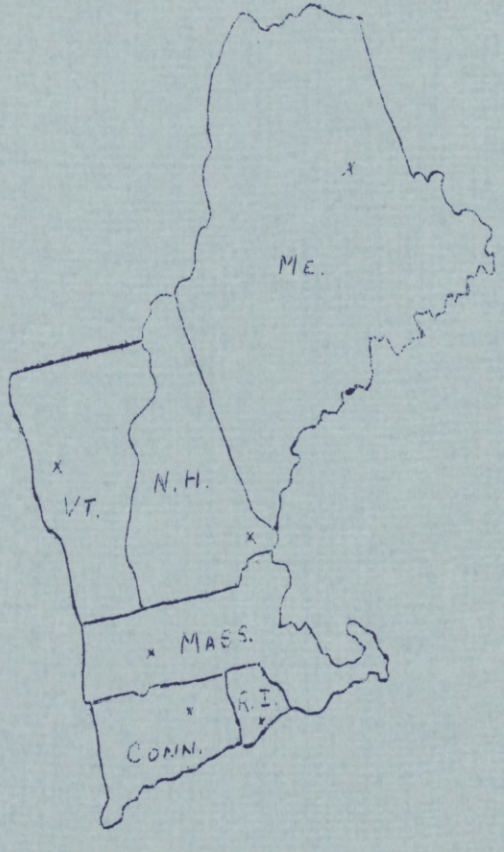
NEW ENGLAND AGRICULTURAL ECONOMIC COUNCIL



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A FORWARD LOOK AT TECHNOLOGY AND INSTITUTIONS AFFECTING NEW ENGLAND AGRICULTURE

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To understand today's complicated food-fiber economy, one must understand the forces at work and the direction in which they are moving. The truth is that our food-fiber economy is in the midst of an accelerating technological revolution--a revolution whose impact is so great and so sudden that it best can be described as an explosion.

On balance, this technological explosion is beneficial to the nation in terms of better food, better health, and the release of workers for other types of enterprise, all of which helps to lay the basis for a higher standard of living. But it also has left in its wake some serious economic and human problems--problems generally referred to as farm problems. These maladjustments are real and serious, make no mistake about that. They are not just farm problems--they are agribusiness problems that affect the whole economy. In large measure, these situations are the backlash of uneven progress on the food-fiber front. They are eddies where change has been too slow--change that in the end will be inevitable. This lack of progress not only weakens the nation on the economic front but adds to human suffering on the part of those persons who do not or cannot quickly adapt to change.

The changes wrought by technology are forcing us in the direction of:

larger farms;
fewer farm families and farm workers;
more capital per farm both for land and other assets;
greater technological know-how on the part of the farmer as a plant and animal expert, mechanic, electrician, construction engineer, nutritionist, chemist, etc.;
greater managerial ability in terms of handling a larger farm plant, with more varied activities;
a higher ratio of purchased farm supplies to total farm supplies, which in turn means a relatively more rigid cost structure;
more extensive facilities for processing foods, including packaging, freezing, dehydrating, freezer storage, etc.;
the adding of more convenience factors to food in order to satisfy consumer desires;
more rigid buying requirements on the part of retailers as to continuity of supply, quality and uniformity of farm products;
increased competition for land for non-farm uses such as roads, suburban housing, industrial plants, airports, and recreation.

These forces, and others like them, are the type of factors with which one must reckon when taking "a forward look at technology and institutions affecting New England agriculture." Whether we like it or not, technology is with us and it is here to stay. It is transforming the food-fiber

phase of our economy from agriculture to agribusiness. Should we be so shortsighted as to attempt to combat change that is inevitable, we shall merely be creating new problems and adding to human suffering. Therefore, the important task for the agricultural economist of New England is to carefully assess the forces at work, the direction in which they are moving, and then try to guide farm and business leaders in an effort to take advantage of technology in terms of economic progress and stability.

On balance the forces of technology are pushing hard towards a closer structural relationship between farm production and the processing-distribution of farm products. I predict an accelerated trend in this direction in the future.

Two forces, particularly, are moving us in this direction:

1. The greater efficiency resulting from the closer scheduling and timing of on-farm and off-farm operation.

2. The urge for greater economic stability in the food-fiber phase of our economy--stability to offset the vulnerability of agriculture to a cost-price squeeze, resulting from the combination of relatively rigid costs and fluctuating commodity prices.

In the past, the trend towards vertically tying together farm production and the functions of processing-distribution has taken numerous forms such as cooperative marketing; producer-processor contracts (as in canning); large farm units which own their own processing facilities; broiler-type vertical integration which by contract ties together the functions of hatching, finance, feed manufacturing, medication, management, processing and selling; marketing agreements and market orders; and government price-support programs.

It is important that we understand the reasons why these trends have developed--that they are the result of forces generated by technology. In a real sense they are the counterpart of the vertical integration which characterizes such major industries as steel, automobile, farm equipment and petroleum.

Currently, there is evidence that public support is declining for the existing government price-support programs for agriculture. Should this be true, then it probably will follow that added pressure will build up for other types of stabilizing mechanisms--particularly for marketing agreements and orders; contract integration of the broiler industry type; and cooperative marketing.

For the New England dairy industry this might mean the extension of milk orders to cover more handlers, the merger of certain existing orders and stricter supervision. For poultry it may mean the further intrusion of the broiler pattern into the egg sector. With respect to fruits and vegetables it could involve the development of stronger producer organizations and the extension of marketing agreements.

In phases of agriculture where strong farmer cooperatives exist such as milk, cranberries, potatoes, and farm supplies, one might expect further vertical extension of the activities of these organizations.

If expanded industrial outlets are to be developed for farm products, this likely will entail close vertical relationship between producer and business interests. Also, credit agencies serving agriculture may need retooling so as to enable them to better meet the need of an agribusiness era. Investment interests and banks may need to develop a closer working relationship in order to meet the intermediate and longer term requirements of the food-fiber economy both on and off-farm.

Looking to the future, the success with which the food-fiber phase of our economy makes the transition from agriculture to agribusiness will depend in large measure on the quality and adequacy of research in this field. Research, too, must be integrated--both horizontally to cover all major commodity areas and vertically down through related operations pertaining to a single commodity. This means that colleges of agriculture must join hands with schools of business; that federal and state departments of agriculture must cooperate with departments of industry and commerce; and that farm and business organizations must work more closely together.

Obviously, such an undertaking will be complicated, difficult and tedious. But have we any logical alternative? As mentioned earlier resistance to change that is inevitable merely serves to build up problems and add to human suffering.

On the other hand, if we act in harmony with technology, problems will be alleviated and ultimately resolved. While technology cannot be stopped, it may be guided. For example, we may adapt technology to serve the needs of efficient sized family operated farms. Thus, technology offers us opportunities as well as problems.

As adequate research findings are uncovered and published, policy makers, using such information, should make sounder decisions. In this way progress will be made--progress that places heavy responsibility on the component sectors of agribusiness.

Now a word to those of us who bear the title <u>agricultural economist</u> --we too must adapt to the dictates of technology. In practice, even if not in name, we must become agribusiness economists.