Our Food Supply

AAAS Symposium • 28 December 1969 • Boston

The program will bring together information on (i) the development and application of technology in crop and livestock production and crop protection which continue to assure the United States an abundant and varied food supply, (ii) the development and application of technology necessary to maintain the safety and wholesomeness of our food supply, (iii) the nutrient composition and quality of our food supply in relation to our nutrient needs and food choices, and (iv) the cost of adequate diets to U.S. families at various income levels. It is planned that there will be three principal speakers at each half-day session.

The morning session will include three principal papers: "Food Crops," "Plant Protection," and "Meat, Milk and Eggs." The afternoon session will include papers on "Quality and Choice in Nutrition," "Food Safety," and "Food Costs of Families."

The production of our "daily bread" employs more people than the utilities, transportation, and the steel and auto industries combined.

The magnitude of growing crops and livestock to provide the necessary protein and vitamin and mineral requirements for over 200 million people in the United States and many more millions in other countries every day of the year requires intuition, skill and technological know-how. Different topographies, soils, and climates provide diverse conditions for food production in the United States. Rainfall varies from a few inches to over 100 inches per year; elevation, from sea level to several thousand feet above sea level; and length of growing season, from 2 to 3 months to year-round. Harvesting, processing, transporting, and marketing have become increasingly important in the total effort. And the tasks of processing, transporting, and marketing foods today frequently exceed the tasks of producing food.

The plant scientist works to produce improved food crops with a higher protein content which contains the amino acid components essential in animal nutrition. In addition to having such essential germplasm, the producer needs to recognize the important interrelationships of soil, water, and air, as well as how to prevent destruction of crops by insects and disease. Livestock production in recent years is emphasizing beef and swine with less fat and a higher percentage of edible protein in these products.

Safety in food supplies is a paramount consideration in all aspects of our food supply. The control of tuberculosis and brucellosis of livestock and other animal diseases contributes significantly to safeguarding human health. Biological control of plant diseases and insects is receiving increasing attention and becoming more effective.

The efficiency of production is evident when it is realized that the rate of increase in agricultural productivity over the past 15 years has nearly doubled that of nonfarm industry. Farm output per man-hour grew at a compound rate of 5.3 percent per year as against 2.7 percent for all nonfarm industry. Mechanization and new technological developments growing out of research and development are responsible for much of this increased efficiency.

Food quality encompasses two facets of food choice. One of these is individual likes and dislikes as they reflect physiological perceptions, built-in food habits, and attractiveness and appeal deriving from new and old food technologies. The other quality aspect is food value, reflecting nutrient content of foods and individual nutritional needs—for the consumers concepts of these needs. For some segments of the populations, nutritional quality of the food assumes an important role. For most, esthetic qualities of the foods dominate food choice. In this dichotomy of food quality, varying roles are played by industry, education, and science. Some tend to simplify, while others tend to complicate the problem of food choice. Examples of food likes and dislikes among college freshmen will be used to illustrate how food preferences interrelate with nutritional quality of diets. Food consumption patterns evolving from these aspects of food choice will be cited as challenges and opportunities for food industry and nutrition educators.

Food technology is protecting the safety of our foods while maintaining and enhancing their quality; form, flavor, nutrient fortification, and sanitization are all enhanced. Safety from contamination with food-poisoning organisms, toxins, and harmful chemical residues is monitored by food industry and regulatory agencies.

Food additives and food analogs, for example noncaloric sweeteners, are under continuous review to assure their safe usage.

Food laws and regulation in the United States influence the introduction of new products not only into our markets but also into export markets, and in the formulation of food policy in developing countries. Food services, both home and institutional, present food safety hazards.

The wide variation in food costs of families is attributed to a number of factors. Data from recent surveys will be used to cite the effect of size and composition of families, income, home food production, prices, and food choices or habits. Also included will be findings from survey data on the relationship of food costs to nutritive quality of diets. Problems in determining the cost of a nutritionally adequate diet for use in social welfare programs will be discussed. The methodology of the USDA food plans at different cost levels and their uses and limitations will be explained.

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Program information and registration forms for the meeting, hotels, and tours appear in the 10 October issue of Science. *Reports about symposia appear in the following issues: 19 Sept., "Tektite: A Study of Human Behavior in a Hostile Environment"; 26 Sept., "Expanding Horizons in Medical Education"; 3 Oct., "Education of the Infant and Young Child"; and 10 Oct., "Is There An Optimum Level of Population?," "Approaches to Policy Sciences," and "Sea-Level Panama Canal."*