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Tel (203) 486-1927
Fax (203) 486-2461

Food Safety, Nutrition, and Health

by

Julie A. Caswell
University of Massachusetts

and

Helen H. Jensen
Iowa State University

Food Marketing Policy Center, Department of Agricultural and Resource Economics,
University of Connecticut, 1376 Storrs Road, U-21, Storrs, CT 06269-4021

FOOD SAFETY, NUTRITION, AND HEALTH

*Julie A. Caswell and Helen H. Jensen**

Background

Traditionally, the key policy issues for the agricultural and food sector have focused on prices and quantities. For example, one of the major stated purposes of the 1990 farm bill is "to ensure consumers an *abundance* of food and fiber at *reasonable prices*." Now, however, assuring the quality of the food supply is taking on greater importance. Quality assurance encompasses the management (and often reduction) of foodborne human health risks arising from multiple sources: microbiological pathogens (e.g., *E. coli*), nutritional risks (e.g., too much fat in the diet), pesticide and animal drug residues, and naturally occurring and environmental toxicants. Quality assurance is set also in the context that consumption of some foods may help in disease prevention.

Consumers' increased awareness of relationships between food safety, diet, and personal health have led them to make quality characteristics more central to their food choices. Producers and processors have a stake in providing safer and higher quality products in order to attract these consumers, to protect themselves from possible liability attached to inferior quality products, and to comply with government regulations. Meanwhile, introduction of new production and processing technologies as well as increases in international trade are altering the mix of foods whose quality must be assured.

* Authors are professor in the Department of Resource Economics, University of Massachusetts and Associate Professor in the Department of Economics, Iowa State University. Leaflet in Series Public Policy Education for the 1995 Farm Bill.

In this century, government has played an increasing role in assuring the safety and nutritional adequacy of American diets. While contemporary policy interest in the relationship between diet and health began more than three decades ago in the 1969 White House Conference on Food, Nutrition, and Health, food safety and nutrition for the U.S. populace have not been major farm bill concerns. Out of the White House Conference grew the dietary goals and guidelines which signaled the beginning of a new era in nutrition education. A major decision facing the Congress is the extent to which the farm bill should ensure consumers an *abundant, safe, and nutritious* supply of food at *reasonable prices*. If the answer to that decision is in the affirmative, the federal government would face the task of coordinating its various agricultural, food, consumer, and trade policies to achieve the specified level of safety.

Current Situation and Forces of Change

The management and reduction of human health risks is on center stage because of the rising costs of health care and the importance of health to individual well-being. Recent large-scale outbreaks of foodborne illness, such as that related to *E. coli* 0157:H7 contamination of undercooked hamburgers sold in Washington, Idaho, California, and Nevada in early 1993, add urgency to safety concerns. Partial estimates suggest the societal costs of foodborne pathogens alone range from \$4-12 billion per year. And diseases in which diet plays a part represent 5 of the 10 leading causes of death in the United States. Important elements of the current situation include:

- **Food demand.** Food safety, nutrition, and health are topics increasingly linked both by scientific evidence on diet-health interactions and by consumer-driven changes in food products themselves. Several reports released in the mid-1980s provided a strong

scientific consensus of support for the fact that the foods eaten by consumers can affect the likelihood of various health outcomes, such as heart disease and certain cancers. And, consumers could choose foods not only for their nutritional value, but also for as not yet well understood preventative values. Consumers are also choosing foods in order to control safety risks (e.g., avoiding raw shellfish) and as a means of expressing their approval or disapproval of particular production or processing technologies. Also important is consumers' increasing reliance on convenient food sources—including prepared foods sold in grocery stores, take-out, fast food, restaurants, and institutional settings—where final quality control is entrusted to someone else.

Government plays a role in shaping food demand through nutrition education and food assistance programs, as well as selection and provision of foods for government programs. The Eating Right food pyramid is an example of coordinated governmental efforts by the agriculture and health communities to develop easy-to-communicate dietary guidance, consistent with the most recent dietary knowledge. However, implementing such standards through governmental programs will not come without its costs. Recommended changes to the School Lunch program are being met with increasing national and local resistance, both due to increased costs and to concerns about the feasibility of bringing about such changes in diets through government programs.

- **Food Supply.** Food producers, processors, and distributors have a strong interest in providing safe products for multiple reasons: to attract consumers, avoid liability, protect themselves or workers from hazards, and comply with government regulations.

Companies also try to anticipate and insulate themselves from controversies regarding particular production and processing technologies (e.g., use of Alar, line processing in poultry plants). And, with consumers' increasing interest in nutrition, and changes in regulation of label claims, companies are marketing more products based on their nutritional characteristics.

Scientific progress has allowed production and processing of foods with enhanced health characteristics, such as reduced or no-cholesterol eggs, low-fat cheese products, and meats with altered fat composition. New technologies and approaches to food safety, such as irradiation and biotechnologies, further allow companies to customize the safety and nutrition profiles of products. The new recognition of the contribution of foods to diet and diet to health has led to increased common interest in the process of food production and legislation that affects it.

- **Regulatory Environment.** Regulation of food safety and quality in the United States is fragmented, with 12 federal agencies administering about 35 laws. Food safety is primarily the responsibility of the Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), and the Environmental Protection Agency (EPA). There is much congressional interest in rationalizing two important aspects of the food safety regulatory system. First is overall risk management standards which, due to fragmentation of regulatory responsibilities, have not been consistent across different sources of foodborne risk. Second is the organization of regulatory activities where, because of split and sometimes uncertain jurisdiction, regulatory efforts are duplicated

in some areas, while others fall through the cracks. This situation has brought calls for reorganization of responsibilities, including the suggestion of establishing a single food safety agency.

Responsibility for nutrition information and education is also split between USDA, the Department of Health and Human Services (DHHS), and FDA. For nutrition, the regulatory landscape will be dominated in the next few years by implementation of mandatory nutrition labeling in 1994, education efforts based on dietary guidelines and the new labels, and efforts to incorporate dietary guidelines into government food provision and programs.

- **International Environment.** The U.S. food supply includes a growing share of imported foods. A recent General Accounting Office (GAO) report indicates that by 1992, almost half of the fruits and vegetables consumed in the winter were imported. And, changes in meat processing and distribution have led to increased U.S. exports and imports of meat and meat products. There is a growing need to extend the current regulatory system to monitor increasing food imports to insure that they comply with regulations to the same degree as products produced within the country. At the same time, such efforts will need to not run awry of international trade agreements. International differences in processing, food, and labeling standards can potentially pose non-tariff barriers to trade. As a result, stricter national standards for food, unless "scientifically based" on hazards to human health, may in future be challenged under the new NAFTA and GATT agreements.

Issues

- **Cross-Cutting of Issues.** Food quality issues often cut across many policy areas. Consumers, producers, and government agencies have a stake in changes in technology related to the safety and nutritive composition of foods. One example is the use of somatotropins and Beta-agonists in the production of meats. Adopters of these growth promotants may gain increases in production, and production of leaner meats. Consumers may be able to purchase leaner meat (produced with the use of growth promotants) at, likely, a lower price. But, how will the prospects of technological change in food production affect food safety and consumers' perceptions of safety; legislation designed to maintain farm income and assure an abundance of food at reasonable prices; the competitive position of farmers and processors; the environment; and international trade, where other countries may evaluate the technology differently or even prohibit it?
- **Responsibilities and the Role of Consumers and Private Markets.** What should be the roles of producers, processors, distributors, consumers, and government agencies in assuring food safety and nutritional quality? What types of information are necessary for consumers to make informed choices about the safety and nutritional content of the foods they buy? To what degree should government purchases be guided by dietary standards? To what degree can we rely on private markets to develop for food quality and how important are labeling requirements to this development?
- **Risk Standards and Policy Goals.** What levels of safety are desired and what risk standards should be applied to domestic, imported, and exported foods? Should

standards focus on expert risk assessments, consumer risk perceptions, or a combination of the two? Expert opinion and consumer views are constantly evolving. How should standards evolve over time? Should risk standards be consistent across foodborne risk sources (e.g., risks from pesticide residues and foodborne pathogens)? How can policy goals in the food quality area be coordinated with those in the agricultural, consumer, and environmental areas?

- **Organization of Federal Regulatory Activity.** How should the federal regulatory system be organized to achieve the desired risk management and reduction goals? What types of regulatory programs will give the best incentives for safety and quality control at the most cost-effective points in the vertical chain of production, processing, distribution, and consumption?
- **Adaptation to New Technologies and International Trade Relationships.** How can the food system best adapt to changing technologies, including biotechnology, processing methods, and testing procedures? How should agricultural and regulatory policy adapt to the impact of new technologies on product supply, safety, quality, and identity? How should the domestic quality assurance system adapt to new free trade zones and global trade agreements? How can the U.S. food system best respond to greater demands for safety from our trading partners such as the European Union and Japan?

Policy Alternatives and Consequences

The food safety, nutrition, and health aspects of food and agricultural policies often challenge traditional agricultural interests. Like environmental concerns and taxpayers' interests, they are claiming a larger role in the fashioning of these policies. In the past, farm bills themselves, with

relatively minor exceptions such as provision for the institution of organic certification standards in the 1990 bill, have not been a legislative vehicle for the federal government's food safety assurance programs. The farm bills, however, have been the means of authorizing several food assistance programs. Those crafting new farm bill legislation will face several policy alternatives that relate to the extent it will address safety and nutrition issues, while there are several broader alternatives that are important to food safety and nutrition policy in general.

Policy alternatives include:

- **Maintain the status quo by leaving food safety assurance largely outside the farm bill framework.** This approach would maintain the current level of separation between farm and commodity policies, which are largely price and quantity oriented, and food safety and quality policies. The separation may make both types of policy of more manageable size and avoid adding complexity to already complex programs. However, this approach would not directly contribute to achieving greater consistency among price, quantity, environmental, safety, and nutrition concerns.
- **Incorporate food safety and nutrition goals and programs more directly into the farm bill framework.** This approach would, wherever appropriate, modify farm bill programs in order to increase their contribution to food safety and nutrition goals. This might be accomplished in a way comparable to the inclusion of environmental concerns in the farm bill through introduction of various types of what may be, very broadly, called "cross-compliance" requirements. Examples might include incorporating nutritional considerations into determining the relative merit of specific commodity programs, tying the receipt of program benefits to meeting pesticide or animal drug

residue standards, or limiting the use of high-fat products in government purchase and food assistance programs.

This approach might contribute to the coherence of federal policy and to more efficient accomplishment of overall social goals. A concern with incorporating food quality issues into the farm bill is that an already extensive piece of legislation would become more unwieldy. Incorporation would also likely yield more complex programs that might not offer clear incentives to producers or processors. For example, producers may decide not to participate in the farm program, reducing the overall ability of the program to satisfy its maze of objectives. There would also likely be concern about the USDA's commitment to a broader spectrum of goals. For example, there was considerable controversy and some hesitation when USDA's proposed adoption of the Eating Right food pyramid, which recommended a lesser importance of animal meat consumption in a healthy diet, encountered the interest of meat commodity groups in maintaining or expanding sales.

- **Increase the farm bill's contribution to food safety and human nutrition by increasing funding for basic and applied research in these areas.** The farm bill has traditionally authorized significant funding of scientific research relevant to the agriculture and food sectors, such as the plant and animal sciences. Food safety and nutrition topics have received little of this support, perhaps reflecting a stronger focus at USDA on farmers and the food industry, rather than consumers, as clients. A policy alternative is to direct more research effort toward the technical (e.g., sources of foodborne pathogens), informational (e.g., how consumers use new information), and

economic (e.g., costs and benefits of alternative programs) aspects of food safety and nutrition. A concern about this policy is that the returns to the expenditures, as in other areas of research, are not certain.

- **Place more reliance on firms and consumers to provide food safety and nutritional quality assurance.** This approach would change, and perhaps lessen, the federal government's role in assuring food quality, relying more on private knowledge and incentives rather than government standards. Since quality control is a complex process, this approach might encourage safety efforts to be taken at the points where they are most effective and cost efficient. For example, many companies specify food safety standards in their procurement contracts, often enforcing standards tougher than those of the government. The federal government could encourage private initiatives by, for example, implementing a Hazard Analysis Critical Control Points (HACCP) approach to food safety at the company level, which would require firms to design and implement extensive quality control plans to assure food safety. This would likely involve some shift in emphasis in government activity away from directly inspecting production processes to monitoring company quality control plans. This approach would also likely also require scrutiny of and harmonization of risk standards across foodborne sources in order to yield a coherent risk management approach.

A greater reliance on private markets and incentives, including consumer responsibility, often places a larger premium on the availability of reliable information. Thus a private market approach might incorporate information requirements, such as labeling and consumer education, to facilitate private food choices. With the implementation of mandatory nutrition labeling by FDA and USDA, this approach is

currently being used for communicating the important nutrition characteristics of food products. A major concern with this policy alternative is whether it would provide satisfactory overall safety and quality levels, and whether all members of society would have equal access to safe food.

- **Centralize responsibility for food safety and nutrition policy within the federal government.** This alternative, which would consolidate responsibility for regulation of food safety risks, labeling, and management of education programs in one agency, is currently under consideration in Congress. Possibilities for consolidating nutrition research, guidance, and education into one agency also exist. Consolidation might result in more consistent regulation of risk across sources (e.g., pesticide residues versus pathogens), across food types (e.g., fresh meats versus packaged vegetables), across the introduction of new food production, processing, and packaging technologies, and relative to new health research. It might also allow a more coordinated response to changes in safety and quality standards for foods moving in international trade. A concern about this policy alternative is whether the variety and complexity of tasks to be accomplished would overwhelm a single agency's ability to perform them.

References

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