Food Quality: Safety, Nutrition, and Labeling

Carol S. Kramer and
Julie A. Caswell

Associate Director, Resources and Technology Division, Economic Research Service, United States Department of Agriculture and
Associate Professor, Department of Resource Economics, University of Massachusetts at Amherst

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Abstract

This paper discusses food quality issues associated with both food safety and food nutritional content. Policy approaches to satisfying consumer demands for safe, nutritious food are described from administrative as well as economic perspectives. Current priority issues include instituting better ways of reducing risks from microbial pathogens, from agricultural chemical residues, and—on the nutritional front—enhancing the nutritional profile of consumers' diets. Nutrition labeling changes have been achieved. Thus, dietary change must be attained primarily through effective means of enhancing nutritional knowledge, changing attitudes and, ultimately, behavior. The paper concludes by considering the development of the next agricultural/food legislation and the chances of integrating food quality issues in the general legislation.

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1. The Issues: Quality Concerns over Food Safety and Nutrition

An expanding array of food quality, safety, and nutrition issues has concerned and challenged the U.S. public and policy makers in recent years. As societies become more affluent, food concerns shift from quantity towards quality. Consumers' desires supersede observable characteristics such as color or visible spoilage, and experiential characteristics such as taste and texture, to encompass credence characteristics which are those reliant on consumer trust. Because key credence characteristics such as food safety or nutritional quality cannot be known by consumers through their senses, appropriate policies must establish effective methods of quality assurance.

The numerous dimensions of food quality are defined by the attitudes, cultural practices, technology and circumstances of a country. In the United States, food safety and nutrition concerns have grown in importance. Food safety concerns are that consuming particular products will cause either acute or chronic harm to health. Potential food safety hazards include disease-causing microbes, naturally occurring toxicants, environmental contaminants, pesticide or animal drug residues, and unsafe food additives. Nutrition-related concerns reflect knowledge or beliefs that consuming particular products may contribute to a diet harming health. Causes range from over-consumption of overall energy or of particular nutrients such as fats and sodium, to under-consumption of valuable food components such as fiber. For many Americans, the major challenge is consuming less fat, sodium, sugar, alcohol, and tobacco and consuming more fiber, fruits, and vegetables.

Many surveys indicate, and experts agree, that U.S. consumers' knowledge of and interest in food quality issues increased in the 1980s and early 1990s. In addition, portions of the public exhibit concern about the uses of new technologies in food production and processing. Examples are the development and use of anabolic steroids in meat production, bovine and porcine growth hormones, genetically engineered organisms such as the "ice minus" bacterium, and irradiation. Increasingly, consumers appear to care about *how* food is

produced in addition to what is produced. Thus, concerns about animal welfare, or the ecological damage associated with pesticide use or, even, the effects on the family farm of biotechnology may increasingly figure into food consumption decisions.

1.1 The Central Food Policy Challenge

The central underlying food quality policy issue is assuring that consumers can purchase acceptably safe and nutritious foods. In other words, to what standard and how should the government attempt to ensure food quality, given the U.S. economic system and consumers' freedom to choose among food products. The experts and the public often disagree on the relative risk or acceptability of risks from different hazards—for example risks from microbial versus pesticide sources—and, therefore, the order of food safety policy priorities. An important aspect of establishing food quality standards concerns whose risks or needs should count the most, in other words the distributional impact of standards. Should standards be set to protect the most sensitive consumer or the average consumer, and who should pay?

Experts realize that delivering food quality—such as lower levels of microbiological contamination or pesticide residues or enhanced nutrient profiles—is often complex and requires extensive coordination among producers, handlers, processors, distributors, and retailers. A relevant policy issue is how the necessary coordination can best be achieved.

Policy makers, as they fashion federal and state legislation, and design and implement programs, respond to changing consumer and industry demands and attempt to exploit an evolving knowledge base. Improved understanding of pathogens and foodborne diseases therefore creates opportunities to implement new policies and programs. In the nutrition area understanding continually evolves of the links between nutrition, other risk factors, and disease. Finally, food safety and nutrition policies reflect the dramatic changes in food production, marketing and distribution, and consumption practices revolutionizing food markets in recent years. These changes include globalization of food markets and the growing affluence of consumers in developed country markets.

1.2 Major Food Quality Policy Issues

Major food quality policy issues discussed here include:

- to better handle microbial hazards by improving and revamping food inspection systems;
- to reconcile and rationalize pesticide laws to better protect consumers, particularly children, and farmers/farmworkers, and the environment;
- to develop new policy approaches for assuring food quality, including labeling and education;
- to design, implement, and evaluate programs to assist consumers to improve their dietary habits;
- to appropriately monitor the development and use of new technologies and assure their safety.

2. The "Facts"

The major food safety issue now confronting federal policy makers is assuring that consumers can purchase foods acceptably free of microbial contaminants and of hazardous chemicals—including pesticide residues, natural toxicants, environmental contaminants, animal drugs, or harmful additives. While these concerns are not new—recall Upton Sinclair's expose *The Jungle*—new dimensions to the problems challenge regulators. The piecemeal development of quality regulations over time has resulted in diverse risk standards being applied in different areas. Rationalization of these standards is central to a rationalization of the system.

2.1 Microbial Contaminants

Microbial problems in the food supply may occur in a variety of products, originate anywhere from the farm through food service or the consumer's kitchen, and be potentially reduced, avoided, or eliminated using alternative means of varying, often uncertain cost-effectiveness. While problems with *Salmonella* or *Campylobacter* contamination in eggs and poultry products have gained wide notoriety and are symptomatic of a variety of concerns, recently red meat safety has been in the news.

One of President Bill Clinton's early Presidential acts was to dispatch newly appointed Agriculture Secretary Mike Espy to Olympia, WA., to learn more about deaths and illness there linked to contaminated hamburgers. Between mid-January and March 1993, approximately 500 persons in the states of Washington, Idaho, California and Nevada reported cases of hemorrhagic colitis associated with *E. coli 0157:H7* (USDA 1993). Nationally, it is estimated that from 6.5 to 81 million cases of food-borne illness from microorganisms occur each year, resulting in approximately 9,000 deaths annually (Centers for Disease Control 1990). Scientists continually discover

new pathogens, which may imply that the figures cited above are underestimates. For example, the strain of *E. coli* pathogen (*E. coli 0157:H7*) implicated in the 1993 Pacific Northwest outbreak was discovered by scientists as recently as 1982 (*Food Chemical News* 1993).

The recent problems in the Northwest have focussed attention once more on questions of the safety of livestock-derived products and how best to assure that safety. Since at least 1985, when the National Academy of Sciences published its ground-breaking report on establishing a scientific, risk-based meat and poultry inspection system, many of the issues—the need for systems design, risk assessment, rapid tests for microbial contaminants, microbial standards, and traceback authority—have been with us. Enhanced efforts to "optimize" the current system in the short run and subsequently to make more major changes toward a risk-based, prevention-oriented inspection system based on risk analysis were announced by USDA in early 1993 (USDA 1993).

Increasingly consumers buy food produced and prepared away from home either in restaurants or in-store delis. Assuring food safety in food service situations has become increasingly important with more meals purchased or eaten away from home. In addition, microwave cookery, while revolutionizing food preparation and distribution possibilities, raises new challenges. Designing information and inspection and quality control systems that make optimal use of new technologies and appropriate sampling methods is a pressing challenge.

2.2 Protection from Chemicals

Among the chemical issues, the safety of pesticides used in food production and processing is a perennial one that grows in importance each year as the use of pesticides remains high and as legislative inactivity persists. Major public concerns center on the adequacy and consistency of *safety standards*, the *quality of information* for regulators and the public, *how risks and benefits should be compared* (if at all), and *the backlog of pesticide registration decisions* at the EPA. In addition, *establishing safety standards for pesticides vis-à-vis the diets of infants and children* is addressed in an important study released in June 1993 by the National Academy of Sciences (National Academy of Sciences).

Perhaps the prime pesticide policy issue is establishing an appropriate, consistent safety standard for carcinogens, but also for reproductive hazards, neurological toxins and chemicals with other adverse effects. In the past the various Delaney clauses contained in the Federal Food Drug and Cosmetic Act set a zero risk standard for

chemicals classed as carcinogens and used as food or color additives or new animal drugs (including pesticide residues concentrating in processing). Because the increasing sensitivity of assay methods results in the capacity to detect residues in the parts per billion range, the Environmental Protection Agency had attempted to effectively establish a floor under the Delaney Clause by adopting what was called a *de minimus* standard of negligible risk. Essentially, the EPA interpretation expressed the principle that the law does not bother with "trifles," in this case residue levels resulting in fewer than one in one million excess cancers over lifetime exposure.

In recent months a coalition of consumer and labor groups challenged the EPA in court. The U.S. Court of Appeals decided that EPA should not continue its *de minimus* interpretation of Delaney. In February 1993 the U.S. Supreme Court let stand the lower court decision. The implications of the decision could result in the loss of some thirty-five currently registered pesticides which have shown carcinogenic properties but whose risk the EPA had considered negligible or insignificant. The Court decision will focus attention once more on the need to revisit safety standards for pesticides. Whether the Congress can reach agreement remains to be seen.

In June 1993 the National Academy of Sciences released a long-awaited study of pesticides in the diets of children. This study focused attention on appropriate methods for assessing risks to children from dietary exposure to pesticides given the facts that children's diets are less varied than adults', that children consume proportionately more of particular foods such as fruits and vegetables per unit of body weight than adults, and that children are not merely "little adults" but experience qualitatively different reactions to chemicals depending on their stage of development. Hence, the issue of improving risk assessment and setting conservative standards to protect the most vulnerable consumers has been placed squarely before both Congress and the Administration.

A corollary to safety standards is the issue of which decision rule is most appropriate. How should economic and other benefits of pesticides be weighed in approval decisions? Methyl bromide, an extensively used soil, post harvest, and quarantine fumigant provides a current case in point where both risks (to the ozone layer) and benefits (to producers in semitropical climates and consumers) were both considered in decisions to phase out the pesticide.

Pesticide regulatory decisionmaking has been slow at best. As the base of toxicological information expands each year so does the need to revisit pesticide studies that were originally used to substantiate registration of now older pesticides. In 1972 and then 1988, the

Congress amended FIFRA to require EPA to reevaluate registered pesticides under more current scientific and regulatory criteria. To accelerate the reregistration review process, time frames that would result in the completion of most pesticide reregistration decisions by 1997 were set. Nevertheless, the mandated EPA reregistration process lags far behind schedule. Whereas over 50,000 pesticide products have been registered since FIFRA was enacted in 1947, and some 17,000 are subject to reregistration (containing about 676 distinct pesticide active ingredients), as of July 1992, the EPA had only reached final determinations on two (GAO 1992, p.2).

While pesticide issues receive the most prominent attention regarding the safety of chemicals found in the food supply, other concerns also exist and may become the focus of increased public policy activity. Among these are residues of animal drugs in food products, particularly in milk (General Accounting Office 1990, 1992), and the potential effects of various biotechnologies on the chemical composition of foods.

2.3 Nutrition and Nutrition Labeling

As noted, public health experts recognize the importance of good nutrition and the links between nutrition and many of the leading causes of death and illness in the United States. Public opinion surveys indicate that public health recommendations and consumers' concerns are converging. Many Americans now recognize the importance of nutrition and have concerns about the amounts of fats, sodium, fiber, and other nutrients in their diets.

Unfortunately, however, concern about diet is not implementation of improved dietary patterns. Changes in American consumers' diets have not kept pace with knowledge, and there is some evidence of backsliding in some areas (Putler and Frazao 1991).

The new mandatory nutrition labeling effective in 1994 will give consumers a powerful tool for implementing dietary recommendations (Caswell and Padberg 1992). This tool is in the form of a label that makes it easier to place foods in the context of a healthy diet and in regulations that ensure the validity of claims such as "light" and "free". Critics argue that the labeling regulations, while imposing costs on the food industry, will not significantly better inform consumers and result in dietary changes. They worry that the labels contain too much information and are too complicated for the average consumer to use effectively. After intense contention the regulations are now in place

and whether, and under what circumstances, consumers will use them to alter their diets remains an empirical question.

An important determinant of the new labels' success may be the degree to which public and private education programs accompany their introduction and encourage their use. Planning for these type of educational programs is underway.

For the large majority of Americans, the major nutritional issue is altering diets to limit consumption of fats, sodium, sugar, alcohol, and tobacco, and increase consumption of fiber, fruits, and vegetables. The consensus regarding these dietary recommendations has been painstakingly built over the last 20 years (U.S. Department of Health and Human Services 1988, National Academy of Sciences 1989). In 1992, USDA incorporated the recommendations in its "eating right" pyramid which will be a key component in future nutrition education programs. The recommendations themselves are based on increasing medical knowledge of the links between diet and ten of the leading causes of death and illness in the United States.

Currently, the most pressing challenge is to identify ways to help consumers modify their own behavior, with *expanded nutrition labeling* and *nutrition education* the major approaches underway. In addition, many inconsistencies exist in public policies and programs affecting nutrition. Consumer groups such as Public Voice for Food and Health Policy have criticized what they consider the high fat content of government donations to the school lunch program, for example (*Washington Post* 9/17/92, p. 19).

2.4 New Technologies

New technologies present opportunities and challenges for food quality. Some new technologies facilitate food safety assurance by replacing older, less safe ones or by making safety monitoring easier. However, other technologies such as irradiation or the use of bovine somatotrophin (bST) are often challenged, themselves becoming quality issues for consumers. As an example, although the use of irradiation has been approved for some uses to control development of microbial pathogens, consumer opposition has been strenuous.

At the food product level, biotechnological techniques may lead to enhanced shelf life, nutritional fortification, or "designer" foods characterized by enhanced nutrient profiles or mineral levels. Finally, convenience counts large in many consumers' utility functions. Precooking or packaging practices lend to convenience but may also have implications for safety or quality.

3. Policy Background

3.1 Administrative Responsibility

Responsibility for regulating food quality extends over several federal agencies in a patchwork of programs. The Food and Drug Administration (FDA) has prime responsibility for both the safety and nutritional labeling of processed foods except meat and poultry which are primarily regulated by the U.S. Department of Agriculture (USDA). Nutrition education has been the bailiwick of the Department of Agriculture. Several other agencies also have roles in ensuring food quality.

In general, the federal policy approach to new technologies has been to attempt to evaluate them under existing laws. Thus, the safety of biotechnological procedures for developing food commodities or products with enhanced or selected quality attributes is regulated under several different statutes and by various agencies.

3.2 Food Safety

Since 1906, the foundation of food safety law has been the Federal Food Drug and Cosmetic Act (FFDCA) as amended, and associated regulations found in the Code of Federal Regulations. Under its various sections, the FFDCA addresses microbial contamination, pesticides and animal drug residues, naturally occurring toxicants, environmental contaminants, and unsafe food and color additives. In addition, a series of laws such as the Wholesome Meat Act and the Poultry Products Inspection Act elaborate legal jurisdiction for specific product groups. For particular issues, for example seafood safety, legal and regulatory responsibility remains defused.

Federal pesticide policy, which has given rise to much controversy in recent years, is defined principally by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) administered by the Environmental Protection Agency, but food additive provisions of the Federal Food Drug and Cosmetics Act also apply. Thus, residue safety enforcement falls under the FFDCA and to the FDA. Since 1970, under FIFRA, EPA has been charged with determining the legal uses of pesticides and establishing tolerance levels, the maximum residue levels permissible in or on foods. EPA is charged in a process called "Special Review" with weighing a pesticide's benefits against its risks as it decides whether to register, suspend, or cancel a particular pesticide's use on a given commodity (Reichelderfer 1990). However, in what has been called the "Delaney Paradox," if a pesticide demonstrating any carcinogenic properties is shown to concentrate in processed foods, then a tolerance may not be granted (National Academy of Sciences 1987). In essence, different safety standards apply to processed and unprocessed foods (Reichelderfer 1990; National Academy of Sciences 1987).

3.3 Policy Instruments

In general, the U.S. food safety policy approach combines *final product standards* setting minimum acceptable quality, some specification of *permitted production and processing methods*, and some *monitoring via government inspection systems*. In addition, the government subsidizes or provides *information* in the form of research, or the development of good manufacturing practices, and mandates that firms provide specific information, either to the public in the form of ingredient labels, or to government agencies to meet requirements for premarketing product approval. Safety standards vary over products or with respect to different food constituents, creating problems of inconsistency of standards. Food and color additives, as well as pesticide residues that concentrate in processed foods, are subject to the no-risk cancer standard contained in the Delaney Amendments to the FFDCA. Other foods or constituents may meet alternative, less stringent safety standards, for example "Generally Recognized as Safe" (GRAS), and do not need to meet the no-risk Delaney standard.

It is especially important to note conflicts in the decision rules regarding pesticide safety between FIFRA and FFDCA. FIFRA permits the use of carcinogenic pesticides provided their risk to consumers is not "unreasonable." FFDCA on the other hand prohibits approval of any carcinogenic pesticide that leaves residues in or on foods that concentrate in processing.

3.4 Nutrition

Beginning in the mid-1980s in response to growing consumer interest and demand and in conjunction with the growing consensus on the importance of diet, food processors began vigorously to promote the nutritional content of their products. In the laissez-faire regulatory environment, some label and advertising messages were unsubstantiated or false. Potential health gains from improved diets and strong consumer interest in foods' nutritional content, along with some market abuses, led to calls for a general overhaul of food labeling requirements (see for example, U.S. Department of Health and Human Services 1990a, 1990b; National Academy of Sciences 1990, 1991). The Nutrition Labeling and Education Act of 1990 directed the FDA to change extensively labeling requirements of foods it regulates.

Changes include *mandatory labeling*, *standardization of serving sizes*, strict *regulation of descriptors* (for example, "free", "less"), stringent *limits on health claims*—permissible messages linking particular nutrients to specific health conditions or diseases (for example, linking fiber consumption and colon cancer),—and the inclusion of *daily reference values*, which inform consumers of the percentage of the average daily requirement of a nutrient (for example, fat) represented by a serving of a particular food product. By agreement, the USDA will apply nearly identical labeling standards to processed meat and poultry products it regulates. Final regulations take effect in May and July 1994.

With the recent revisions in federal food labeling policy—now a major focus of nutrition policy—any changes in the foreseeable future will likely be refinements only. *Public and private educational programs* to accompany the introduction of the new labels are planned to leverage their impact on consumers. One important unresolved side issue is whether nutrition-based advertising claims, under Federal Trade Commission jurisdiction, will be regulated in a manner consistent with the labeling standards.

4. Economic and Political Considerations

Each of these food policy areas—safety, nutritional quality, labeling, and technology—has both economic and political dimensions.

4.1 Contributions of Economic Theory

The rationale for government involvement in safety assurance and market regulation flows from experience with problems in the operation of unregulated markets. Welfare economists term these problems manifestations of market failure: unregulated food markets often produce suboptimal levels of food quality.

Some problems are driven by the fact that consumers or buyers throughout the system lack adequate information. An unregulated food market typically does not offer the producer incentives to generate and provide information about quality. This information frequently contains a public good component, meaning in part that many receive information who have no incentive to pay for it. Thus, the producer who invests in information or enhanced quality may not cover the costs of doing so.

Throughout history, governments have attempted to reduce the prevalence of *caveat emptor* (let the buyer beware) in food markets and

have actively regulated the sale of food and drink. How policies and regulations are formulated affects not only the costs and profitability of producing and distributing food—that is, the supply side of the market—but also the quantity, quality, and prices of foods demanded by both U.S. and foreign consumers. The economic impacts of food safety or nutrition policies can be analyzed in the context of welfare economics using benefit cost analysis or related techniques such as risk benefit analysis or cost effectiveness analysis.

From the policy standpoint, where does the demand for food quality originate? Both private parties (consumers) and public sources or society as a whole demands food quality (Kramer 1990). Consumers wish to avoid foodborne risks and the costs associated with them, be they illness, death, or simply loss of peace-of-mind (van Ravenswaay 1992). There is public good value associated with general confidence in the food supply. In addition, public demand exists for food quality because of the societal costs or externalities associated with acute foodborne illnesses such as salmonellosis, or chronic diseases such as arterio-sclerosis (Caswell 1990). Social costs of food borne illness include both medical costs and productivity losses to the economy.

Benefits and costs associated with regulation, taxes, or information requirements and the relative responsiveness of supply and demand to changes in costs, prices, and quality changes—affect social welfare as well as the distributional consequences of policy changes. To the extent consumers suffer illness or death related to food safety or nutritional characteristics, policy alternatives affect public health and costs associated with foodborne illness and these become part of the economic calculus.

From a public finance or public policy perspective, costs associated with assuring food quality can be weighed, both by consumers and policy makers, against the entire range of alternative uses for dollars that may improve social welfare.

4.2 Political Dimensions

In addition to the economic dimension are political concerns: the distributional effects of policy changes on relative costs or benefits have repercussions on clientele groups in the political process. From public choice theory comes the insight that small, well-organized producer groups experience greater economic incentives to express political preferences about a policy change than large groups of consumers. Each individual consumer might benefit only slightly in relation to transactions costs of taking action, though the aggregate benefits for all consumers of a policy change might be great and social net benefits positive.

5. Alternative Policy Approaches

Ensuring food quality can be reduced to two major questions: What standards should be set and how should those standards be implemented (Caswell 1990). The first question involves measurement of risks (risk assessment) and judgements about what levels of risk are acceptable in particular situations (and to whom). Standards are set by combining this information with cost information for attaining various levels of risk reduction. As noted above, no one would argue that the federal government's current acceptable risk standards are consistent. Ultimate coherence in food quality programs relies on consistent standards, although it is likely unattainable. Meanwhile, the policy process often proceeds on a piecemeal basis examining particular risks and risk standards singly.

Under current policy, federal risk standards provide a key benchmark or floor in all food quality areas. Private parties (or the states) may choose to adhere to stricter standards, as happens, for example, when producers, distributors, and consumers choose organic foods. As U.S. consumers' tolerance for foodborne risks seems to be decreasing, two major policy alternatives arise.

5.1 Update Risk Standards

One policy approach is to update product risk standards to accord with consumers' preferred risk levels, although this raises questions about whose risk tolerance should be respected, the most concerned consumer, an average consumer, or that of the experts in the field? Updating (often tightening) risk standards has the advantage of preserving the traditional high floor under food quality and the "every food a safe food" approach but the disadvantage of introducing higher costs into the food marketing system.

5.2 Encourage Private Market Approaches

The second major policy option is essentially to leave current standards in place and encourage the development of private markets to serve consumers who have preferences for foods that meet more stringent final product standards. For food safety, this represents a significant policy departure. The two options discussed here align with two alternative approaches to risk standard implementation. These two approaches can be referred to as the "banning or minimum standard" and the "information" approaches (Zellner 1988, Caswell 1990). Under the banning or minimum standard approach, government sets product standards that serve as a floor with any product that does not

meet the standard considered illegal for sale. Under the information approach, government standards serve only as a benchmark and regulation focuses on supplying adequate information to consumers to allow them to make informed choices. Obviously, the easier it is to inform consumers and the better they are able to judge product quality, the more attractive are information strategies.

In virtually all areas of food quality assurance, the federal government mixes minimum final product standards/banning and information strategies. However, it is very important to understand that to date, the United States has mostly chosen a banning/minimum standard approach to food safety, and accepted and institutionalized an information (labeling) approach to nutritional content. It is equally important to understand that both regulatory approaches are applicable to both quality issues in certain cases. A major source of regulatory innovation in the future may come from applying the approaches in new areas.

Since a regulatory policy of information (labeling) and education in regard to nutritional content is firmly entrenched, food safety is the major area in which alternative policies may be considered in the near future. The alternatives include modification or further development of minimum standards related to safety, adoption of safety labeling, or a combination of the two.

A labeling approach to food safety requires the development of markets for food products with varying degrees of safety, markets which have been slowly developing. Formal labeling regulations may encourage this development, just as national standards for organic products are expected to facilitate their marketing. The major tradeoff to be considered is the value to consumers of being able to choose products with varying safety levels versus an "all food is safe food" policy. There is also some doubt whether markets will really support products of varying safety or if only the safest product will ultimately survive in the market.

An important upcoming policy issue is whether products produced with new technologies such as biotechnology will be required to be labeled. Opponents of such technologies argue that labeling preserves consumers' freedom to choose without stifling innovation. They suggest that markets for products free of specific technologies will develop.

Differences exist between two labeling policies: (1) *requiring* that products using the technology are labeled as such, and (2) *allowing* products that do *not* use the technology to label themselves as such. Whereas food producers, processors, and retailers can usually use the second approach without restriction, the first approach is more

powerful, because the label requirement tends to suggest to many consumers that questions about the technology's safety may exist. Given that most new technologies face some organized opposition, a major issue will be whether, in the political process, labeling of a technology will become its price of admittance to the market.

6. Challenges for Change

As preparations begin for formulation of the 1995 "farm" bill, it is useful to consider the manner and extent to which concerns over food quality have (or have not) been incorporated in past iterations of the bill. A brief review of the 1990 "Food, Agriculture, Trade, and Conservation Act" (FATCA) suggests that while this and any such bill affects domestic and foreign food consumers in numerous important ways, for the most part major issues of food quality, safety, and nutrition are conventionally treated elsewhere. FATCA does of course exert numerous direct and indirect effects on food availability, food costs, food safety and quality, marketing rules, food assistance and nutrition programs, and the public research agenda. It also imposes costs on consumers as taxpayers to fund provisions of the bill.

To provide some perspective, the FATCA of 1990 contains twenty-five titles in a five-year framework for agricultural and food policy. The first eleven titles deal with specific commodity programs and general commodity provisions. Subsequently, the mix of titles includes forestry; conservation; agricultural trade; credit; research; rural development; food assistance; fruits, vegetables, and marketing; grain quality; and organic certification (Kramer 1991, p. 914).

In the end, what did FATCA mean for consumers in terms of impacts on food quality, safety, nutrition, or labeling? Perhaps, most symbolically important were some of the newer "green" measures in the 1990 bill: requirements to develop national organic certification standards, to require farm pesticide record keeping, to establish new water quality measures, to undertake research into the effects on pesticide use and consumer demand of 'cosmetic' grade and quality standards for fruits and vegetables, and to redirect some research expenditures toward food safety, sustainable agriculture, and environmental improvement.

More tangible and established in some senses, FATCA also reauthorized the major food assistance programs without significant changes and in an era of recession—incorporating some program

operation changes to make them more accessible to eligible recipients (Kramer 1991).

Thus far U.S. food policy, as opposed to agricultural policy, has never been developed in a systematic manner in either the context of such a "farm" bill or in any other comprehensive legislative vehicle. Indeed, this has been one criticism consistently leveled by food policy analysts over time. What are the chances for a change in the future with food quality, safety, and nutritional issues integrated into a broader food and agriculture bill? If one considers the rather surprising success of environmental groups who instigated the design and incorporation of conservation and other environmental measures, first in the 1985 and, subsequently, the 1990 farm bills, it encourages intriguing speculation as to how attempts to rationalize agricultural and food policies might be pursued and how measures akin to the cross-compliance and cost-sharing employed by the environmental lobby might be employed.

If future food and agricultural bill developers wished to actively incorporate food quality measures in the farm bill, they would have the choice of developing distinct food safety or nutrition content titles, or incorporating measures where appropriate in the existing commodity or research titles.

There may be some value in considering other instances where multiple objectives have been combined in FATCA-type bill provisions. For example, it might be convincingly argued that both domestic and foreign food assistance programs have always represented a marriage of convenience between objectives of making food available to the needy, sometimes with explicit nutritional objectives, and expanding agricultural sales. Perhaps the food assistance programs, more than any other in the food policy area, represent an operational melding of competing objectives. Although controversial in the sense that surplus commodities are not always those highest rated by nutritionists, nevertheless, the food assistance programs have passed the test of political survival.

Why have most of the major food quality, and labeling issues been handled outside of the food and agricultural bill framework and is this likely to be a permanent situation? Asking the question another way: Is there a role for this legislation to explicitly promote food quality, safety, and nutrition, and at the same time promote consistency among the objectives of the commodity and conservation titles? The probable answer, "it depends," reflects not only the yet to be determined imagination and cooperation of bill developers, but the political

organization of Congressional responsibility for the various jurisdictional areas and the legislation involved. In addition, the responsibility for oversight of various administrative agencies *and* the power of public and constituency concerns at the time of farm bill development will shape the political will and feasibility of modifying business as usual in the "farm" bill.

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Food Marketing Policy Center
1376 Storrs Road, Unit 4021
University of Connecticut
Storrs, CT 06269-4021

Tel: (860) 486-1927
FAX: (860) 486-2461
email: *fmpc@uconn.edu*
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