

California Agriculture

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*How safe is
the food supply?*

Ensuring food safety requires national effort

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There is a rising tide of public expectation that our food be made safer than it is today. Part of this expectation follows a false sense of danger — in fact, we have the safest food supply in history.

On the other hand, part of this expectation stems from publicity of real episodes that suggest we could do better and from statistics that suggest the same. For example, it is estimated that there are 80 million cases of food-borne disease in the United States each year, killing more than 9,000 people and costing more than \$1 billion. National surveillance data show that microbial contamination is by far the most important contributor, yet the public is also concerned with the more mysterious risk of chemical contamination (pesticides, herbicides, antibiotic residues, etc.). The public easily extends its concern from the Alar-on-apples episode of a few years ago to the *E. coli* 0157:H7-in-hamburger episodes of the past year.

The public also perceives that changes in farming and processing have created new situations where pathogens can be introduced into foods, at the source or in the many steps of processing and distribution. In this regard, the media have exposed many different problems, some pertinent to production of poultry, seafood, beef and pork, vegetables and fruit, and some to the food distribution, retailing and restaurant systems. The positive side of this, from the perspective of California's agricultural interests, is that the public is very supportive of programs that will make our food safer.

Complex food chain

The food chain is becoming extremely complex and changing in many ways: (1) Food production and processing units are growing, turning out larger lots of products, so when something goes wrong there are greater consequences and greater public notice. (2) There is increasing diversity of products — approximately 2,000 new food products reach the market each year. Most are quite technically intricate, and many contain untested ingredients and additives and involve unusual processing steps. (3) Demand is increasing for "ready to eat" processed foods. This involves large numbers of food handlers, extended holding of products at room temperature, and increased opportunities for microbial contamination and amplification. (4) Demand is increasing for international cuisine, which may present new challenges in safe food preparation.

For these and other reasons, our country's food safety system must be streamlined, and recast with a sounder scientific basis. We need a system based on assessment of the process, not the product.

One such system, the Hazard Analysis at Critical Control Point (HACCP) system, is already in an advanced stage of development by the Food Animal Production Medicine Consortium. It is preventive in that it identifies places in food production and processing where problems are most likely to occur, and focuses inspection, research and remedial activities at these points.

Preharvest food safety programs are essential to strengthen the first link of the food chain, preventing problems before they can affect the "downstream" links. In animal production

units, HACCP targets the feed supply, physical facilities, livestock farms and ranches, and management practices. The system requires that animals be identifiable after they leave the production unit so that if a problem is found, it can be traced back.

Agriculture and public health

In the past, it was assumed that agriculture would ensure a safe food supply. The regulatory agencies of the U.S. Department of Agriculture (USDA) and state governments were empowered by long-standing laws and public funds. However, in recent years, the public health sector's responsibility for certain aspects of food safety has become more apparent, and federal and state agencies have expanded their activities. For example, the public health sector took the lead in the *E. coli* 0157:H7 hamburger episodes, *Salmonella enteritidis* egg episodes and *Listeria* cheese episodes.

These moves have led to tensions, exacerbated by some members of Congress pushing to form a single encompassing agency — the Food Safety and Inspection Agency (FSIA) — involving units of the Food and Drug Administration (FDA), the Department of Commerce (seafood inspection), the Environmental Protection Agency and the USDA. President Clinton's plan to streamline government also starts the ball rolling toward consolidation of all food safety responsibilities into one agency under the FDA.

At a minimum, the cooperation between agriculture and the public health sector needs to be improved. We believe that advancing our national food safety agenda will depend largely on their collaboration; a successful effort will enhance research and educational programs.

A national effort

Options for improving food safety include: (1) the status quo, in which the consumer bears responsibility with the only federal inspection being organoleptic inspection and spot inspection at retail stores and food preparation facilities; (2) the European Community system, in which directives dictate the standards for food handling; (3) a national voluntary effort, in which responsibility falls on all segments of the process: production, processing, distribution, retail, restaurant and consumer. Voluntary certification overseen by the government would enhance compliance by leading, rather than driving, food handlers into compliance. A national advisory council would be established to recommend guidelines for voluntary quality assurance programs. Partnerships would be formed between government and the academic sector; and between producers, processors and consumers to implement sound, scientifically based food safety practices.

Whichever decisions are made and pursued, they must consider the public health significance of foodborne illnesses and emphasize the responsibilities inherently assumed by those involved in supplying food.

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Special issue: How safe is the food supply?

In this issue of *California Agriculture*, we consider several answers to this question — from a spectrum of scientific viewpoints.



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Cover photo: Kristina Clark noshes on a wedge of fresh cantaloupe. The cover photo and all other photos, except where noted, are by Jack Kelly Clark.

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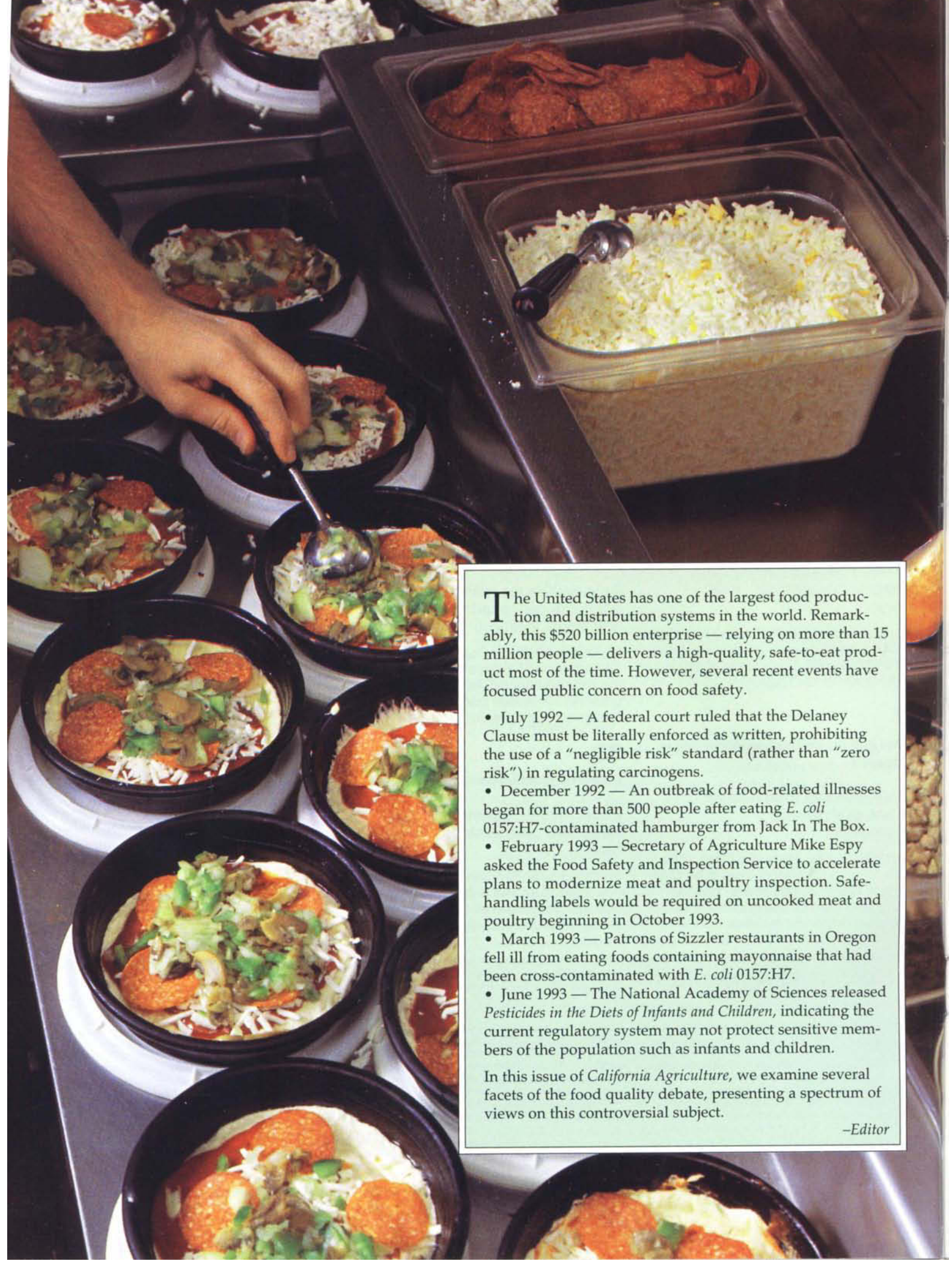
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The United States has one of the largest food production and distribution systems in the world. Remarkably, this \$520 billion enterprise — relying on more than 15 million people — delivers a high-quality, safe-to-eat product most of the time. However, several recent events have focused public concern on food safety.

- July 1992 — A federal court ruled that the Delaney Clause must be literally enforced as written, prohibiting the use of a “negligible risk” standard (rather than “zero risk”) in regulating carcinogens.
- December 1992 — An outbreak of food-related illnesses began for more than 500 people after eating *E. coli* 0157:H7-contaminated hamburger from Jack In The Box.
- February 1993 — Secretary of Agriculture Mike Espy asked the Food Safety and Inspection Service to accelerate plans to modernize meat and poultry inspection. Safe-handling labels would be required on uncooked meat and poultry beginning in October 1993.
- March 1993 — Patrons of Sizzler restaurants in Oregon fell ill from eating foods containing mayonnaise that had been cross-contaminated with *E. coli* 0157:H7.
- June 1993 — The National Academy of Sciences released *Pesticides in the Diets of Infants and Children*, indicating the current regulatory system may not protect sensitive members of the population such as infants and children.

In this issue of *California Agriculture*, we examine several facets of the food quality debate, presenting a spectrum of views on this controversial subject.

—Editor