



U.S. Produce Growers' Decisionmaking Under Evolving Food Safety Standards

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What Is the Issue?

U.S. produce growers have faced increased demand for implementing food safety practices, prompted by a series of high-profile foodborne illness outbreaks. Most recently, the “Produce Rule” (PR)—mandated by the Food Safety Modernization Act (FSMA) of 2011—presents a new set of federally mandated standards for produce growers. Little information exists about how and why produce growers decide to implement various food safety practices. This report addresses that information gap, summarizing a series of open-ended discussions with produce growers, trade organization representatives, and others that indicate the nuanced reasoning behind growers’ actions in response to evolving food safety standards.

What Did the Study Find?

The U.S. produce industry is highly diverse in terms of fruits and vegetables (and other specialty crops) grown, the marketing channels sold to, and the characteristics of operations. Like the U.S. farm sector as a whole, most produce operations are very small or small farms (less than \$500,000 in annual sales), but collectively they make up only a small percentage of the total U.S. value of produce production. This case study focused on six produce regions that varied in climatic, economic, and agricultural characteristics—the Northwest, central California, the Southwest, the Lake States, the Northeast, and the Southeast—and on five commodities with diverse contamination risks, harvest methods, perishability, and means of consumption—apples, cantaloupe, strawberries, onions, and tomatoes. Most growers who grew one of the five crops also grew others.

Commonalities in case study growers’ approach to food safety were stronger than differences across the produce industry. With surprisingly few exceptions, growers’ approach to food safety in different commodity sectors and different regions is very similar. The main differences arose between small growers and medium or large growers and between growers marketing directly to consumers, restaurants, or retailers and growers selling to other marketing channels.

Produce growers in the case study described their long history of adapting to changing food safety requirements. Growers most confident in their ability to adapt to new food safety standards shared two key characteristics: a background and culture of food safety at their company and a well-developed food safety information network.

These produce growers reported that retail and foodservice buyer requirements have largely driven the adoption of food safety practices. Growers in the case study noted strong commercial incentives to adopt food safety practices to protect consumers and maintain

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relationships with major buyers/retailers. Some growers reported tension with buyers/retailers over the assignment of liability, demands for new practices and facilities, and extensive third-party audits.

Collaboration with private and public sector partners opens food safety communication channels.

Many produce growers in the case study attributed their success in implementing a food safety program to the support they received through their contract partnerships with other growers. Also, these growers said advice from regional commodity organizations, State departments of agriculture, and agricultural extension helped them implement food safety standards, including the PR.

Growers operating in a highly competitive market weigh the hard-to-quantify benefits of risk-reducing practices against their significant costs. Reported food safety costs included hiring staff and consultants, training supervisors and employees, developing a system of recordkeeping, and replacing inadequate buildings and equipment. Although growers frequently cited water testing as a challenge, earlier ERS studies indicated that water testing costs are the least of any measured food safety practice.

Case study growers at every stage of adoption of formal food safety practices voiced uncertainty over some PR requirements. At the time of the case study, the U.S. Food and Drug Administration was still drafting guidance on PR standards and official training was ramping up. Both growers and those who advise them were uncertain about water standards and whether additional rules for food facilities would apply to their operations.

Participating growers cited additional challenges such as multiple layers of State and Federal regulations, numerous audits, and capacity constraints for food safety services. The growers emphasized that food safety is only one of many attributes that make a produce company viable in the modern market and repeatedly brought up “audit fatigue.” Also, these growers saw the limited supply of professionals with specialized technical knowledge of food safety to be a constraint for growers and auditors.

Growers in the case study described how seasonality, geographical dispersion, and perishability of produce crops contribute to a highly dynamic and complex produce market that is especially challenging for small growers. The diverse types of growers, buyers, and retailers implement safe practices to protect consumers and shield themselves from potential liability due to foodborne illness. Growers of all sizes in the case study questioned whether smaller farms would be excluded from supply chains under new food safety standards due to the cost of hiring a food safety supervisor or replacing inadequate buildings and equipment.

How Was the Study Conducted?

ERS researchers conducted six field trips between 2016 and 2017 to meet with groups of one to three produce growers, food safety supervisors, officials from State departments of agriculture, agricultural extension personnel, or trade organization representatives. About 50 individuals participated in the meetings. Through in-depth conversations, ERS researchers explored the nuances of grower decisionmaking surrounding food safety practices and discovered growers’ most pressing concerns. Discussions were free-form, generally starting on the topic of food safety, but moved to many different aspects of the growing operation.

ERS spoke with growers with operations of widely varying sizes, marketing arrangements, and business structures; and growers representing different demographic characteristics, experiences, and backgrounds. ERS talked with growers who would be covered by the PR, as well as others who would not be covered or would qualify for an exemption. In a few cases, follow-up conversations occurred over the phone. Qualitative results in this report expand upon work published in two related ERS reports on the food safety practices of produce growers: a 2015-16 survey of U.S. produce growers (Astill et al., 2018) and a 2016-17 case study of produce retailers (Minor et al., 2019).