



## Food Safety Audits, Plant Characteristics, and Food Safety Technology Use in Meat and Poultry Plants

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### What Is the Issue?

Food contamination poses serious threats to human health as well as to the economic viability of meat and poultry plants. Food safety technology can increase a company's capacity to prevent a foodborne contamination. A food safety audit—a quality control tool in which an auditor observes whether a plant's processing practices and technologies are compatible with good food safety practices—can indicate how effectively food safety technology is being used. Fast food restaurants, grocery stores, and other major customers of meat and poultry processing plants conduct their own audits or hire auditors to assess the soundness of a plant's processing operation. Meat and poultry plants also can audit themselves as a way to help maintain process control and as a marketing tool. In this report, we document the extent of food safety audits in U.S. meat and poultry processing plants and examine the association between the use of audits and plant size, firm structure, and food safety technology use.

### What Were the Study Findings?

- In the poultry slaughter, cattle slaughter, and ready-to-eat products (e.g., luncheon meats) industries, at least 90 percent of output is from audited plants.
- In the hog slaughter, ground beef, and not-ready-to-eat products (e.g., meat cuts) industries, at least 70 percent of output is from audited plants.
- More than one-half of all plants were audited in the poultry slaughter industry. About one out of three cattle slaughter and hog slaughter plants were audited.
- Plants with customer-hired or plant-hired auditors use significantly higher levels of food safety technology than plants without auditors. The most notable differences between plants using auditors and those not using auditors were in the use of testing and equipment technologies, and the smallest differences were observed in sanitation practices. These results hold within plant size categories.
- The use of double audits may indicate firms with the strongest incentives to maintain food safety. Double-audit plants—those using both plant-hired and customer-hired auditors—use greater food safety technology than plants using only one audit type (either plant-hired or customer-hired). These results hold after controlling for plant size.
- Larger plants and plants owned by multiplant firms are associated with a significantly higher level of food safety technology use across all industries that were examined.

This is a summary of an ERS report.

Find the full report at [www.ers.usda.gov/publications/eib82](http://www.ers.usda.gov/publications/eib82)

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

## How Was the Study Conducted?

Food safety technology use in six categories of meat and poultry plants—cattle, hog, and poultry slaughter; ready-to-eat (e.g., luncheon meats); not-ready-to-eat (e.g., meat cuts); and ground beef—is examined using a technology index developed by Ollinger, Moore, and Chandran (2004) and using Tukey-Kramer comparison tests and other statistical tools. Six technologies were examined: hide removal (dehiding), sanitation, operations, equipment, testing, and an overall measure. The data on the use of food safety technologies are nationally representative and include information on 600 slaughter plants and 700 processing-only meat and poultry plants collected by RTI International for USDA's Food Safety Inspection Service in 2004 and 2005. They are the most recent data available.