

# Study finds food safety practices benefit small farmers

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Elizabeth Bihn, director of the Produce Safety Alliance, conducts a food safety training. Credit: Rob Way

The costs of implementing food safety practices to prevent foodborne illnesses have been viewed as a threat to the financial well-being of small farms, which must pay a higher percentage of their annual sales than larger farms to meet safety standards.

But a new Cornell University study finds that when [small-scale farmers](#) are trained in [food safety](#) protocols and develop a farm food safety plan, new markets open up to them, leading to an overall gain in revenue.

"Our results should be welcomed by growers in understanding that food safety investments can support both reduced microbial risks and sales growth," said Todd Schmit, associate professor in the Charles H. Dyson School of Applied Economics and Management.

Schmit is lead author of "Assessing the Costs and Returns of On-farm Food Safety Improvements: A Survey of Good Agricultural Practices (GAPs) Training Participants," which published in the journal *PLOS ONE*.

"The study highlights the value of food safety to all farmers," said study co-author Elizabeth Bihn, director of the Cornell-based National Good Agricultural Practices (GAPs) Program and the Produce Safety Alliance, a collaborative project between Cornell, the U.S. Department of Agriculture and the U.S. Food and Drug Administration (FDA). "It's great to know that by investing in food safety, you are actually getting a market benefit."

In 1998, the FDA released a guide for good agricultural practices, to minimize microbial food safety hazards for fresh fruits and vegetables. Though the recommendations for farmers were voluntary, many buyers—including grocery stores and wholesale buyers, farm-to-[school programs](#) and food distributors—demanded growers follow GAPs guidelines as a requisite for doing business. For verification, buyers commonly request that growers get a third-party audit.

The National GAPs Program and Cornell Cooperative Extension began offering a multiday GAPs training program in 2008 to help growers create a [farm](#) food safety plan, a necessary step to passing an audit.

In the study, food scientists, extension educators and economists surveyed New York state farms that had previously participated in the GAPs trainings. Educators asked the farmers about costs of implementing GAPs, which can include washing stations, coolers and new employees to monitor and record food safety steps and actions. They also asked about the [financial benefits](#).

"What we found is that, consistent with the literature," Schmit said, "the relative cost burden is higher for smaller-scale producers, but they also have more relative benefits of increasing sales to new markets and buyers."

In 2015, the FDA completed its Food Safety Modernization Act (FSMA) Produce Safety Rule, a set of specific actions growers must take to prevent contamination from foodborne pathogens. While GAPs certification is voluntary, market-driven and requires an audit, FSMA compliance is mandatory and farms receive inspections.

"It is important to note that markets drove food safety requirements before FSMA," Bihn said, "and will likely continue to drive markets given that FSMA exempts or excludes certain farms."

In the future the researchers hope to do similar types of surveys and analyses in other parts of the country, specific to the FSMA implementation.

**More information:** Todd M. Schmit et al, Assessing the costs and returns of on-farm food safety improvements: A survey of Good Agricultural Practices (GAPs) training participants, *PLOS ONE* (2020). [DOI: 10.1371/journal.pone.0235507](https://doi.org/10.1371/journal.pone.0235507)

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